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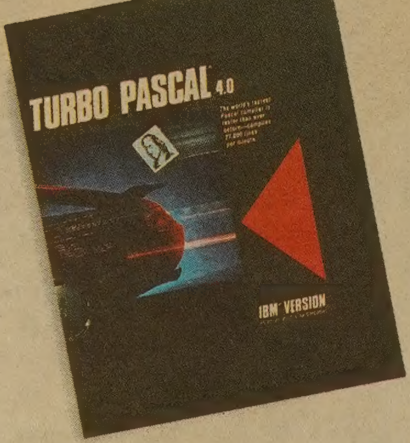

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4.0 uses logical units for separate compilation

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Sieve (25 iterations)

	Turbo Pascal 4.0	*Turbo Pascal 3.0*
Size of Executable File	2224 bytes	11682 bytes
Execution speed	9.3 seconds	9.7 seconds

Sieve of Eratosthenes, run on an 8MHz IBM AT

Since the source file above is too small to indicate a difference in compilation speed we compiled our CHESS program from Turbo Gameworks to give you a true sense of how much faster 4.0 really is!

Compilation of CHESS.PAS (5469 lines)

	Turbo Pascal 4.0	*Turbo Pascal 3.0*
Compilation speed	12.1 seconds	35.5 seconds
Lines per minute	27,119	9,243

CHESS.PAS compiled on an 8 MHz IBM AT

BORLAND

---

*Run on an 8MHz IBM AT.

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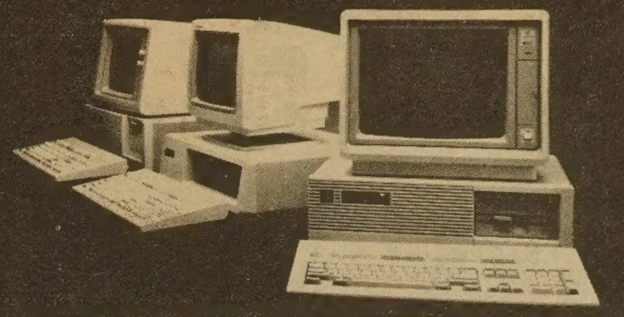

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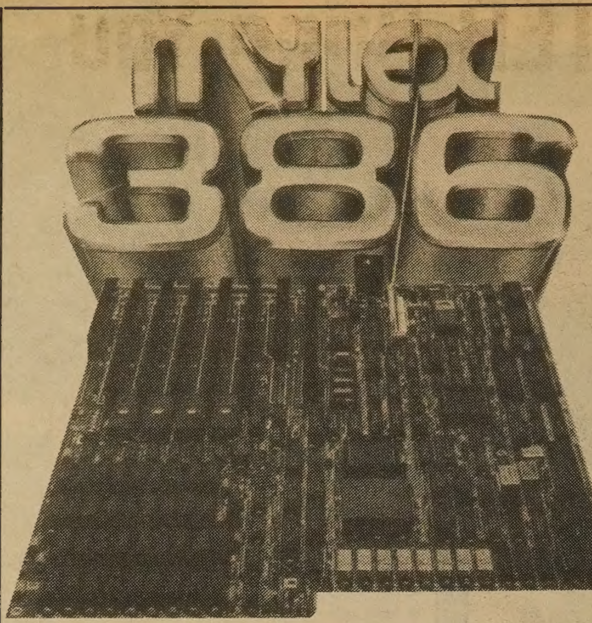

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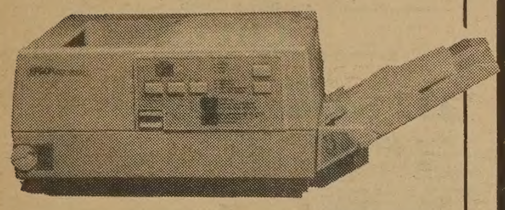

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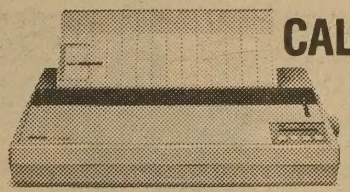

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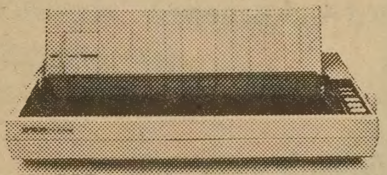

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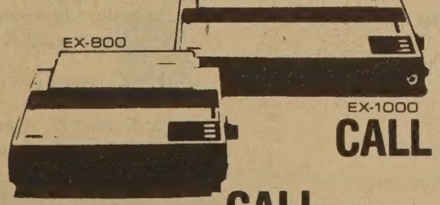

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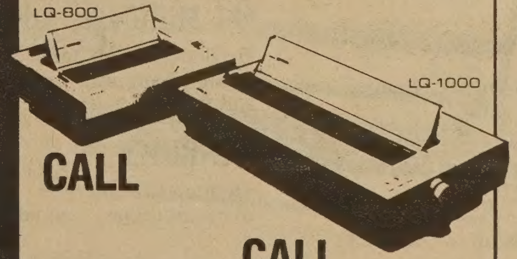

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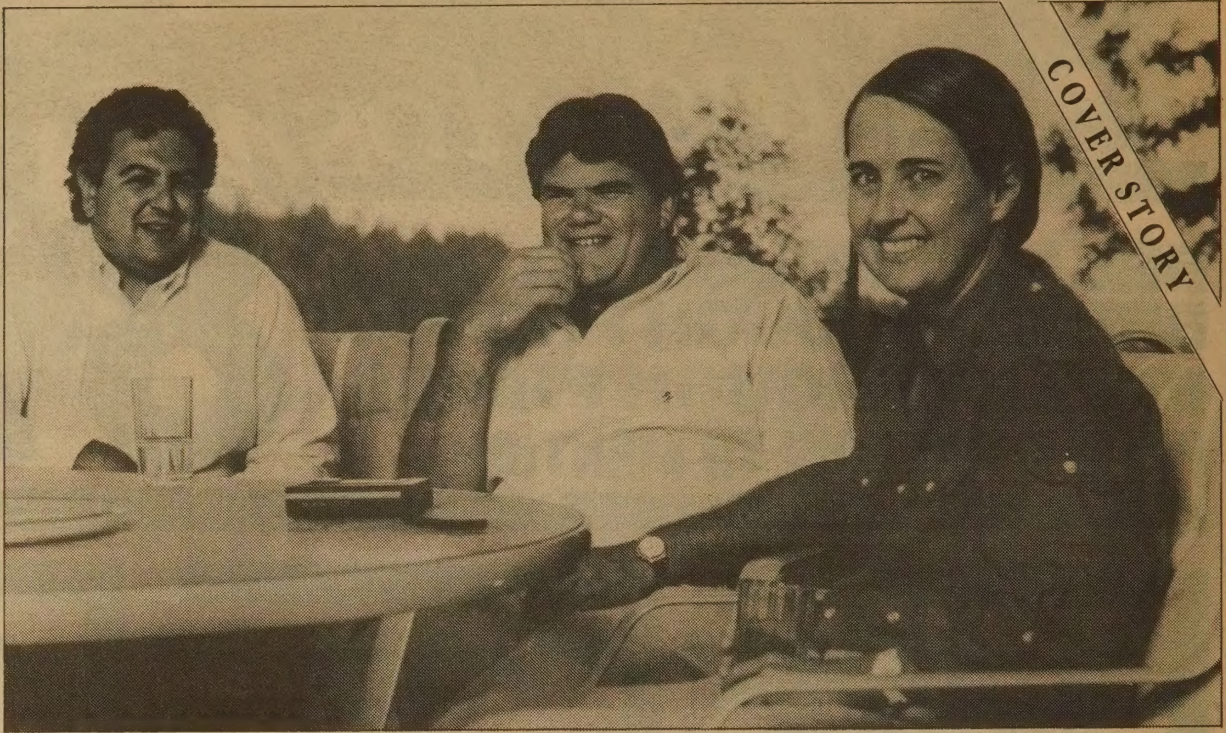
ISSUE NO. 37 MICROTIMES NOV. 1987

52 New Worlds For Borland Paradox And Philosophy With Philippe Kahn

By Dennis Erokan and Mary Eisenhart

Once known chiefly as a maverick software company flying successfully in the face of tradition, Borland International is poised to take on the corporate world, having recently acquired Ansa Software and its revolutionary database *Paradox*. Borland's founder and president, the ever-outspoken Philippe Kahn, comments on the transition to a new world, the state of the industry, and life at the top.



Our Morning With Philippe

Cover and contents photo: Ken James/Pat Johnson Studios

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Peripherals and software to enhance the early Tandy and NECC laptop computers.

66 The NEC Multispeed And Multispeed EL: Power And Functionality, With Or Without Your Desktop
By Wayne A. Yacco
These portable machines offer both power and convenience to the PC user, either as standalone units or as additions to your desktop machine.

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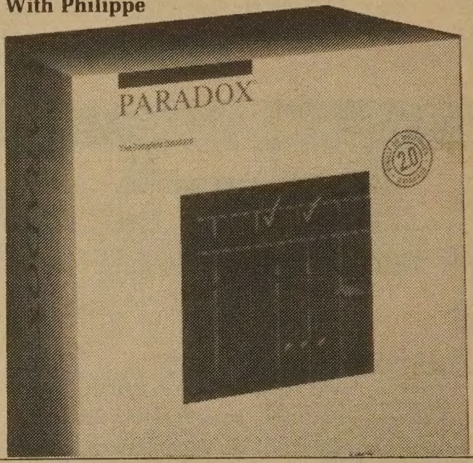
By Sue Albert
Thanks to the efforts of Berkeley Softworks, Commodore's little workhorse keeps on going.

76 The PC Port Controller
By Robert Beauchamp
This "poor man's LAN" connects up to ten RS232 devices at minimal cost.

78 Palantir Software: Windowing Its Way To Success
By Serge Timacheff
This Texas-based software publisher, a leading proponent of the *Windows* operating system, offers a series of integrated packages for creating personalized and automated work environments.

87 Helping Developers From Startup To Success: The Software Entrepreneurs' Forum
By Helmi Kobler
This Palo Alto organization helps fledgling software developers with everything from advice on marketing to interaction with industry leaders.



HANDS ON

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By Birrell Walsh
Ansa's database manager is powerful, flexible and feature-laden, but you don't have to be a programming wizard to use it.

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By Robert Beauchamp
A *MultiMate* user looks at the new version of an old favorite.

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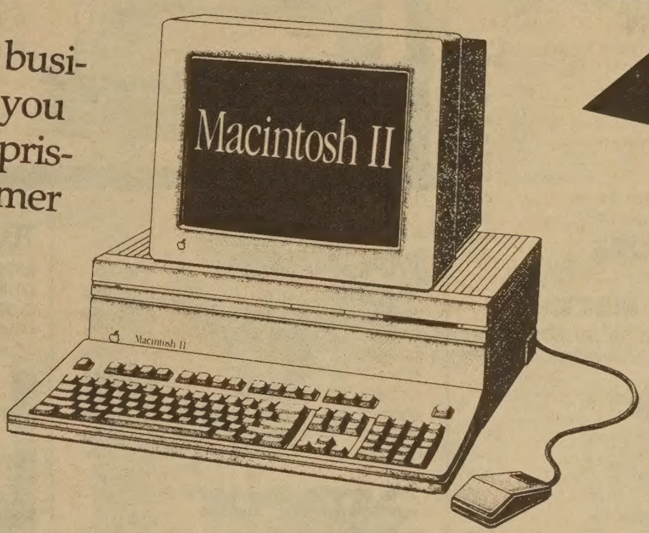

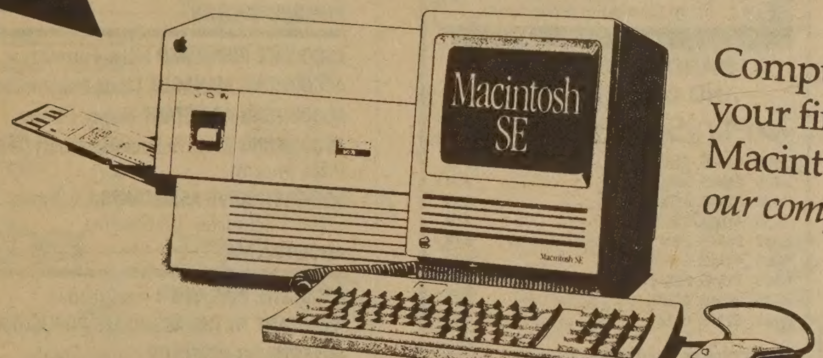

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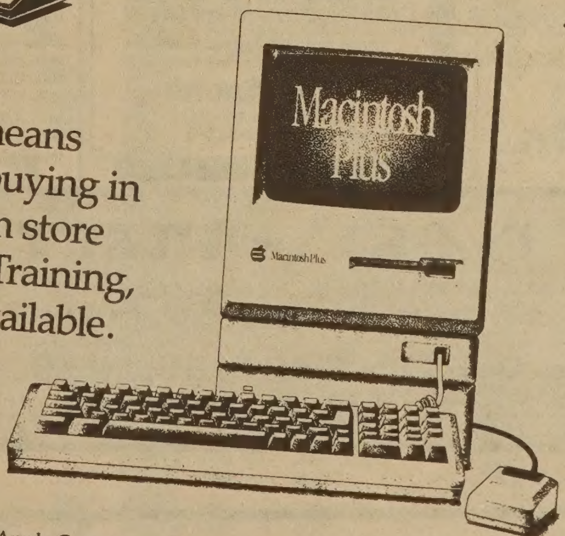

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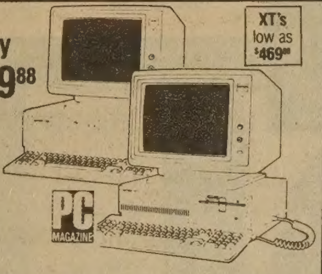

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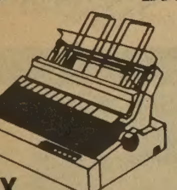

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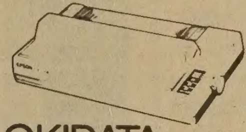

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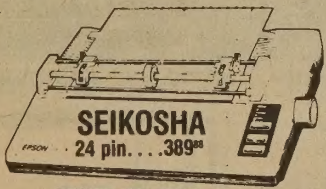

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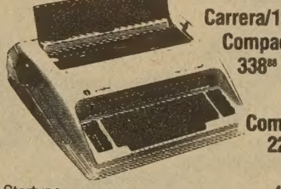

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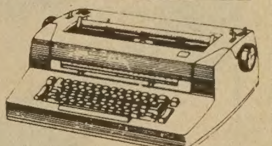

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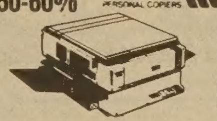

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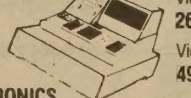

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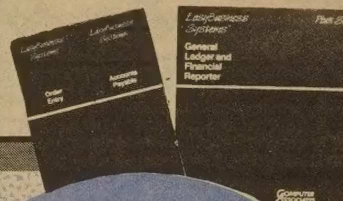

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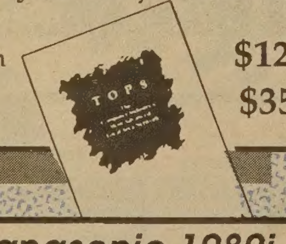

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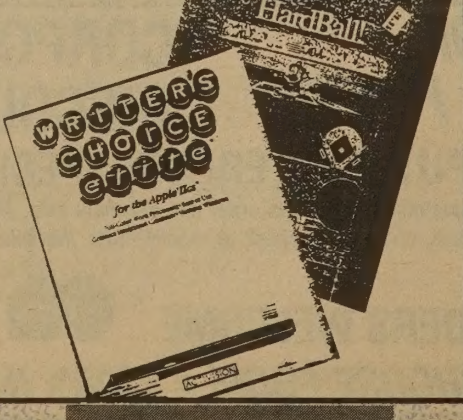

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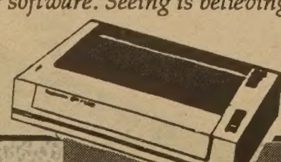

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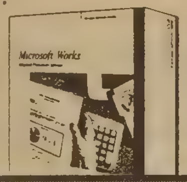

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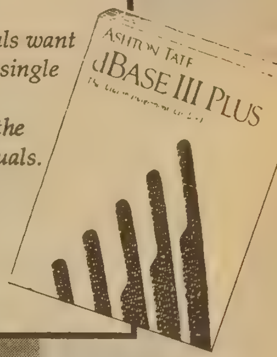

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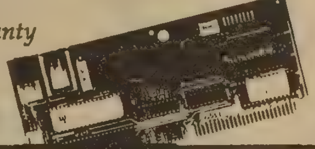

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October 17 Amiga Class: Business Applications. Contact Patrick Bailey at (415) 949-4864.

October 17-18 Oakland Computer Show. Oakland Coliseum. Golden Gate Shows (415) 388-8893.

October 19 Bill Machrone From PC Magazine. 7:30 pm. Fort Mason Bldg., A. Sponsored by SF PC Users Group. (415) 221-1966.

October 20-23 Machine Vision And Image Recognition. Palo Alto. Contact Integrated Computer Systems (800) 421-8166.

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October 21-23 IFIP Conference On Computers And The Law. Santa Monica. Contact J.J. Buck BloomBecker at (213) 850-0509 or Michael M. Krieger at (213) 208-2461.

October 24 Computer Swap Meet. San Mateo County Fairground, San Mateo. RK Productions. (800) 252-7927.

October 24 DataFlex File Relationships Seminar. San Francisco. Contact Cochlin Computer Systems at (415) 495-5999.

October 27-29 Computer Aided Software Engineering Symposium. Hyatt Regency, Oakland. Call (617) 470-3880 for information.

October 24 Computer Swap Meet. San Mateo County Fairground, San Mateo. RK Productions. (800) 252-SWAP.

October 31 Santa Rosa Computer Show. Sonoma County Fairgrounds. Golden Gate Shows (415) 388-8893.

November 2-6 COMDEX/Fall '87. Las Vegas, NV. Call The Interface Group, (617)449-6600 for information.

November 2-3 BPI EEO/Affirmative Action Santa Clara Tech/Job Fair. Santa Clara Marriott. Call BPI at (800) 328-4032.

November 5 Advanced dBASE Class Begins. Vista College, 224 Wheeler, UC Berkeley. Call 841-8431 for information or come to first class.

November 7 Computer Supermarket Show And Sale. Santa Clara County Fairgrounds, San Jose. Microshows (800) 433-7469.

November 14-15 DataFlex Advanced Topics Seminar. San Francisco. Contact Cochlin Computer Systems at (415) 495-5999.

November 19-20 Eleventh Annual Western Educational Computing Conference. San Francisco Cathedral Hill Hotel. Contact Alexia Devlin, CECC Treasurer, San Francisco State University, Accounting Data, NADAM-358, 1600 Holloway Ave., San Francisco, CA 94132.

November 19-21 MacFair. New York City. Call American Expositions Inc., (212) 226-4141.

November 19-22 imPACT '87 International Conference And Exposition On Electronic Publishing. Hong Kong. Contact Seybold Seminars at (213) 457-5850.

November 21 Amiga Class: Music, DMCS. Contact Patrick Bailey at (415) 949-4864.

November 21 Computer Mart. De Anza College Campus Center, Cupertino. Contact the Students Activity Center (408) 996-4350.

November 28-29 Computer Supermarket Show And Sale. Brooks Hall, San Francisco. Microshows (800) 433-7469.

December 5 Computer Supermarket Show And Sale. Cow Palace, San Francisco. Microshows (800) 433-7469.

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News about user group meetings and other regularly scheduled activities should be sent to User Group Network at the same address.

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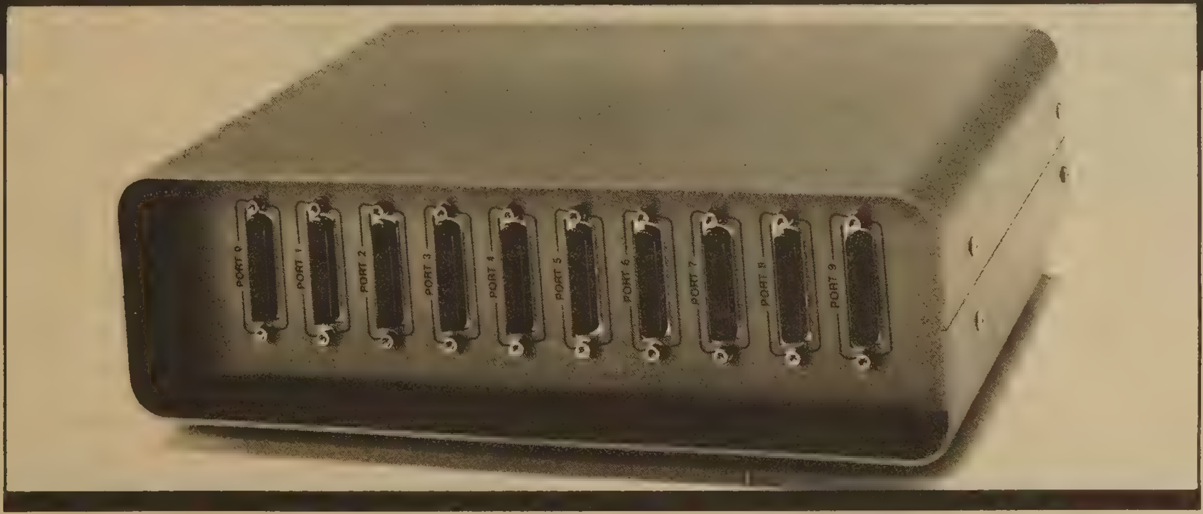

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BUT JAN LEWIS SAYS . . .

Marketing Myopia Strikes Again

The story about Tymnet in the last issue of *MicroTimes* was a good story. Unlike its more fortunate child, however, Tymnet's parent company, Tymshare, did *not* dodge a bullet in the early 1980s. Truth is, the company failed to respond to a changing environment for a period that spanned several years. Tymshare suffered from a case of a classic disease known as Marketing Myopia.

Marketing Myopia, first described in a paper written by marketing guru Theodore Levitt and published by Harvard Business Review, is, very simply, the failure to understand what business you are in. Tymshare thought it was in the timesharing business. In fact, it was in the business of providing computerized analysis tools to business customers.

Let me explain the syndrome by examples. The railroads are a classic example of Marketing Myopia. The railroads defined their business incorrectly. They thought they were in the railroad business instead of understanding that they were in the business of transporting passengers and freight. Had they realized that they were in the transportation business instead of in the railroad business, they would have seized opportunity from the growth of the airline industry.

Tom O'Roarke, the founder of Tymshare and one of the chief creators of the timesharing industry, was a visionary. Nearly 20 years ago, he left a successful career with GE to fulfill his vision. His vision was to provide computer timesharing services to companies and departments that did not have access to the power of computers, due to the high cost and the lack of availability of mainframe computers.

And fulfill that vision he did. Tymshare became an industry leader by providing an impressive set of product offerings. Through phone lines, customers worldwide had access to a series of DEC PDP-10 mainframes, IBM 370 mainframes, and one of the most sophisticated set of analysis tools anywhere, including information analysis and retrieval, relational database, multidimension modeling, and proforma (spreadsheet) tools. The company even built its own network to maximize access and reliability and to minimize access costs.

So successful were Tymshare and other timesharing companies, that by the mid 1970's, users of timesharing services including almost every company in the Fortune 500, with Tymshare claiming nearly half of them as customers.

But toward the end of the 1970s, trouble started brewing. Companies like Digital Equipment (DEC) and Data General were becoming quite successful at selling minicomputers into businesses and departments that would not have been able to afford mainframes. Companies that were paying high monthly bills to timesharing vendors could start thinking about buying their own minis. But the costs were still high, and the impact on Tymshare's business was minimal. More significantly, however, new companies were getting into the timesharing business by buying minis like DEC PDP-11s and later DEC VAXes, and offering timesharing services on minis at a lower cost than companies like Tymshare could provide on mainframes. Companies like Ross Systems in Palo Alto, California, did just that, and they starting nibbling away at Tymshare's market share.

But it was just a nibble, and the entire market for on-line information services was growing at such a fast pace that even the small impact on market share left plenty of room for growth. The growth of the total market was so great that that this small intrusion into market share was not significant enough to shake Tymshare out of complacency.

But if the threat from the minis wasn't great enough, a more significant threat was looming on the horizon: the microcomputer. As Tymshare salespeople walked up and down the halls of the Fortune 500, they would occasionally see some maverick financial analyst using *VisiCalc* on an Apple II.

This phenomenon was treated with scorn and derision—a classic symptom of Marketing Myopia. The railroad companies treated airplanes with the same ridicule. The idea of a 100-ton steel tube flying at 35,000 feet carrying passengers and freight was ludicrous. To Tymshare, the same held true for *VisiCalc* on an Apple II. It was slow, memory-limited, clunky, klugey, and required the user to develop some technical knowledge of how the system worked. Tymshare's mainframe tools were far more sophisticated.

Marketing Myopia is, very simply, the failure to understand what business you are in. Tymshare thought it was in the timesharing business. In fact, it was in the business of providing computerized analysis tools to business customers.

It's true. Tymshare's products *were* far superior to *VisiCalc* on an Apple II. However, many companies were spending $5,000-$30,000 per month on Tymshare's financial analysis tools. The cost of purchasing a microcomputer solution was frequently less than the cost of a single month of using Tymshare!

Not only was the price differential so great; on top of that, there was a psychological advantage to using a micro. With timesharing, the customer paid for computer resources as they were used. With a micro, there were no incremental costs. Without the "taxi meter" of connect time and cpu time running, the user had more personal control, could do more what-if analyses, could do more "on-line thinking." In short, the user could do more for less money.

In the long run, the effect of micros on Tymshare was devastating. It didn't need to be that way. Tymshare could have taken the birth of the micro as an opportunity to fill customer needs in a more cost effective way. Tymshare did not stop growing because the need for information analysis declined. It stopped growing because the need was filled by other businesses instead of by Tymshare.

Lord knows, the micro industry certainly could have benefited from a company like Tymshare becoming a distribution channel for micros. Tymshare already had distribution into Corporate America through a superb sales staff that understood how to sell computer services to the Fortune 1000. The distribution channels for micros, remember, were just forming. The emerging retail channel was not only fragmented, but was not serving the needs of the business community very well. By and large, computer buyers dreaded a visit to the computer retail store, characterizing the salespeople as used car salesmen, and getting incorrect and inconsistent information from store personnel who were either arrogant, ignorant, or both.

What Tymshare lacked during the onslaught of competition from minicomputers and microcomputers was not opportunity. It lacked the same vision and boldness that Tom O'Roarke had when he built the company and the industry.

Of course, the natural question one might ask is: Wouldn't Tymshare have killed their existing product lines if they had embraced mini and micro computers? The answer is: Of course, they would have. And that is exactly why they should have developed these products before other companies did. For their own good, they needed to erode their own product line before someone else did. Instead, they stuck their head in the sand. They ignored emerging alternative solutions to their customers' needs.

This is a country where invention, creativity, and enterprise flourish. If you don't provide the products and solutions that your customers need, someone else will. Companies that don't realize this will end up converting opportunity into failure. And no amount of wishful thinking will stop that. ☐

Jan Lewis is a leading analyst and commentator on the microcomputer industry, known for her keen insights and understanding of the industry's trajectory. As president of Lewis Research Group, Ms. Lewis serves as marketing consultant to a variety of high tech companies.

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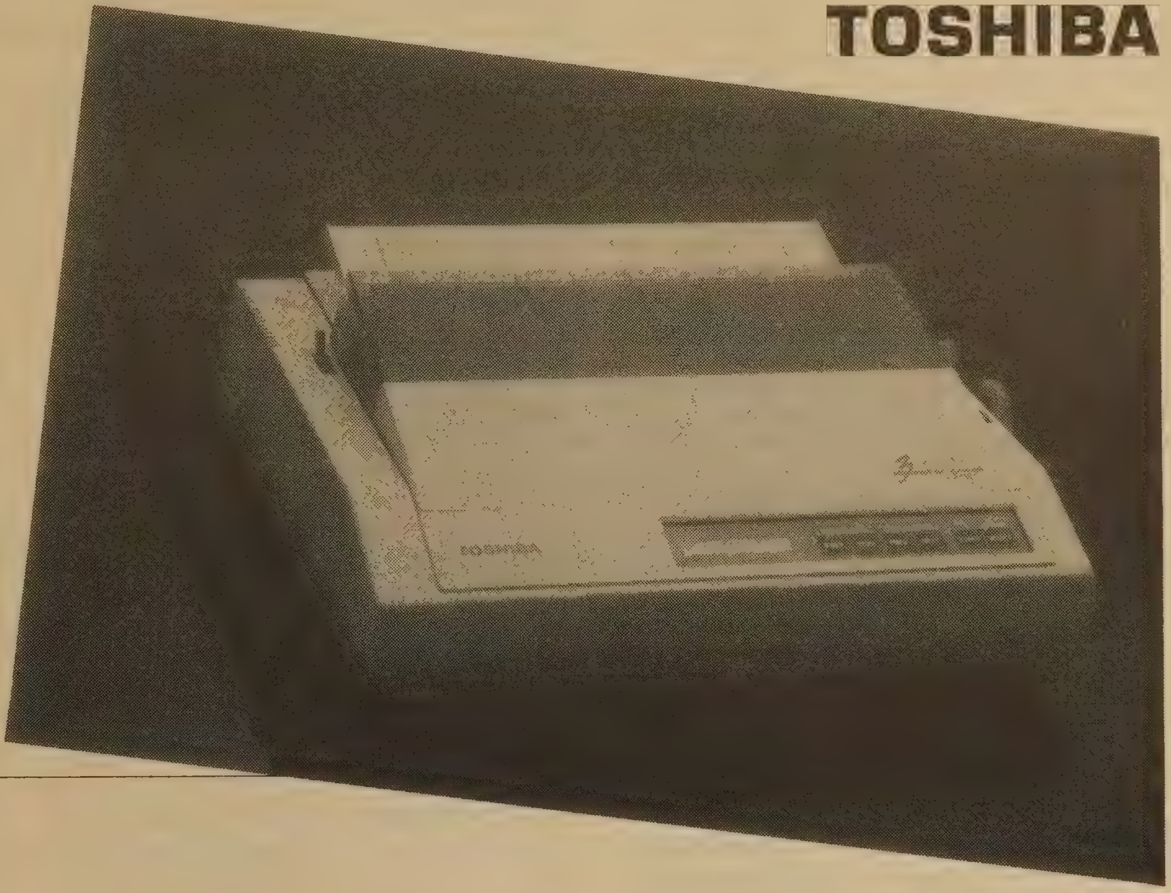

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No Info Services For Baby Bells; Apple Loses Big Order

Judge Greene Squelches Baby Bells

WASHINGTON (NB)—In a ruling that has infuriated regional telephone operating company executives, U.S. District Judge Harold Greene has barred the seven regional Baby Bells from offering information services, such as electronic yellow pages. Rather, said Greene, the regional phone companies may offer only voice storage services and such services as electronic telephone answering.

Greene presided over the AT&T breakup. As a result, he is the overseer of what the Baby Bells can offer. Greene's ruling also prohibits the regional phone companies from entering the long distance business and from manufacturing.

The regional telephone companies are expected to appeal the ruling. Ameritech Corp. executive Ken Millard said his company was "appalled by the judge's order." Pacific Telesis Executive Vice President Arthur Latno said his company is "deeply concerned with the outcome and possible consequences" of Greene's ruling. Pacific Telesis was considering entering the videotex market, but the ruling appears to rule that out.

Jobs Predicts Fourth Wave, Launches Adobe Deal

SANTA CLARA, CA (NB)—The reclusive Steve Jobs went public with some bold predictions at this year's Seybold Desktop Publishing Conference. He hinted that his own firm NeXT's machine will have a broader and more revolutionary appeal than has previously been predicted, and will be a part of a "fourth wave" of computers, following the trails left by the Apple II, IBM PC, and the Macintosh. That fourth generation computer will run the UNIX multitasking operating system, have a "user friendly" interface similar to that of the Macintosh, and will connect to other machines in a work group on the Ethernet network.

Most importantly, says Jobs, the new machines will have displays based on Adobe's PostScript page description language. The new Display PostScript, a collaboration between NeXT and Adobe, will provide true what-you-see-is-what-you-get capabilities, and will become the next standard for displaying graphics, he said. Adobe says it will demonstrate Display PostScript next summer. Jobs' UNIX workstation is expected to be available some time early next year.

Analysts were impressed by Jobs' apparent vision, but there were skeptics in the crowd. One vendor complained that Adobe will make licenses for Display PostScript as expensive as the current PostScript for laser printer is. Charles Ying, co-founder of the electronic publishing company Atex, spouted, "Adobe is not buyer-friendly." Further, he added, "The number of people that have to read the PostScript manual is a total waste of human resources."

Jobs snapped back, "I don't think you know what you're talking about."

Jobs refused to comment on the coming book *Odyssey: From Pepsi To Apple* by Apple chief John Sculley, who documents the nasty split between the two in September 1985. "It's more fun to shape the future than regurgitate the past," said Jobs.

Apple Loses Mac Order In Guide Backlash

Bellevue, WA (NB)—A major automobile manufacturer has decided against some 20,000 orders of Macintoshes in favor of the new IBM PS/2 series for its internal operations, according to Alan Boyd, president of Owl International. The car company's decision, he says, was due to Owl International's switch in research from Macintosh to MS-DOS versions of *Guide*, its *HyperCard*-like software development tool, which has become a hot item among car companies. Owl International decided against further development of its Macintosh version of *Guide* just 30 days prior to Apple's release of the competing *HyperCard*. Consequently, to utilize *Guide*, the unnamed car company, whose identity will be revealed at the Paris Auto Show in October, will purchase only IBM products.

Owl's *Guide* has an impressive track record in the auto industry. The *Guide* is in use by Ford Motor Company, where, running on HP Vectras, it will be installed in service bays as a diagnostic tool at authorized Ford service centers nationwide this fall.

Boyd told NEWSBYTES that he's canceled further research into the Macintosh *Guide*, and blames Apple. "It's a consequence of Apple deciding to compete against software companies. You can't fight something that's bundled free with Macintoshes. They've pushed us into the IBM and UNIX markets," Boyd told NEWSBYTES.

While not accusing Apple of stealing his ideas, he does say, "They (Apple) had a working Macintosh *Guide* in their hands last November. And like all licensed developers for the Mac, we had to give them a copy of our intimate business and development plans." He has not ruled out legal action but says he's not considering it, "although we've had a lot of mail telling us to sue Apple."

Owl will continue to support the Macintosh *Guide* versions it has sold, and will ship version 2 for the Mac in October. But the company plans to develop almost exclusively CD-ROM and MS-DOS applications of *Guide* for the IBM line.

CONTACT: Alan Boyd, OWL INTERNATIONAL, 206/747-3203

ComputerLand To Sell Company-Owned Stores

OAKLAND, CA (NB)—ComputerLand Corporation has shocked the business world by announcing its intention to sell all its 45 company-owned stores, a move which will make the firm merely a parent company of nearly 800 franchises. The move surprised many analysts, who say ComputerLand had been talking recently about hiring more people to open more company-owned stores.

ComputerLand is in final negotiations with potential buyer and venture capital firm E. M. Warburg Pincus to sell the entire corporation. Warburg Pincus reportedly favors the sell-off because it will reduce friction between the company and its franchisees. That friction is mainly due to conflicts between purchasers for the company-owned stores and those of the individual retailers. The news was greeted by a round of applause by the franchisees. Says one, Bob Zimmerman of ComputerLand Santa Clara, "It looks very positive to us."

California Computer Privacy Bill Defeated

SACRAMENTO, CA (NB)—A bill which would have extended First Amendment rights to include electronic communications via computer or teletext systems has been voted down in California's Assembly. The defeat came at the hands of the state's Republicans, who voted down the state constitutional amendment. Backed by such groups as the ACLU, The Independent Computer Consultants Association, the California Library Association and others, the amendment, introduced by Assemblywoman Gwen Moore of Los Angeles, had passed the Assembly Utilities and Commerce Committee, and had it passed the Assembly's Elections, Reapportionment, and Constitutional Amendments Committee it would have gone to a public ballot for California voters.

Moore blames the defeat on a general apathy on the part of computer users, and a lack of publicity. The measure may be reconsidered in January.

U.S. stories in Newsbytes are compiled by Wendy Woods, Ken Maize, and Dana Blankenhorn. Masayuki Miyazawa and Keizo Yamamoto compile the Japanese reports in Tokyo. Send all comments and newstips to Wendy Woods, Editor in Chief, NEWSBYTES, 39 Miramar, San Francisco, California 94112 or call 415-587-6389. Copyright ©1987

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Compaq Unveils 20 MHz 80386

NEW YORK (NB) — Compaq proclaimed itself the Heavyweight Personal Computing Champ September 29. In portables, it's certainly got the heaviest contender. The new Portable 386 weighs in at 20 pounds.

By making the Intel 80386 chip run at 20 megahertz with Intel's 82385 cache chip, and improving storage (hard drives with up to 300 megabytes), back-up and memory (up to 16 megabytes) to handle the change, Compaq built the kind of powerful, rugged machines users once associated with IBM. Compaq also released a new version of MS-DOS, 3.3, to handle up to 512 megabytes. (Older versions could only handle 32 megabytes.)

The battle between the Compaq Deskpro and IBM PS/2 standards will be fought in the marketplace, among developers and buyers, who must decide between VGA graphics and Micro Channel Architecture slots or Compaq's Enhanced EGA graphics and Concurrent Bus Architecture. A hint on the winner — Compaq's got the old IBM clones on its side.

CONTACT: Jeff Stives, COMPAQ, (713)370-0670

Microsoft Unveils *Windows/386*

REDWOOD CITY, CA (NB) — Microsoft has introduced *Windows/386*, a true multitasking environment for the hot new generation of Intel 80386-based microcomputers running MS-DOS programs. The announcement beats out a planned multitasking OS/2 environment from IBM, expected sometime next year, and provides another shot in the arm for makers of MS-DOS-running 80386 microcomputers. Compaq, which co-developed *Windows/386* with Microsoft, is so excited about the product that the firm will bundle a free copy with every 386 computer sold through December 31.

Unlike DOS 3.X and *Windows*, *Windows/386* is pre-emptive and provides background execution of programs while a user switches back and forth between them. For instance, *Lotus 1-2-3*, *PageMaker*, and Microsoft *Chart* can all be running within a Compaq 386 in separate windows, and the user can move between them without any interruption of command execution in each program. *Windows/386* juggles multiple 640K MS-DOS environments using 8086 virtual mode of the 80386 microprocessor.

While Compaq shared the limelight with Microsoft, it is not alone in offering a *Windows* bundle or compatibility. 386-based micros from AT&T, Hewlett Packard, ITT, Kaypro, NCR, Olivetti, Tandy, Wang, Zenith and PCs Limited are all compatible with *Windows/386*. Software which is fully compatible includes Microsoft *Word*, *Sidekick*, *Paradox*, *Q+A*, *Multimate Advantage II*, *PFS First Publisher*, *dBASE III Plus*, *WordPerfect*, and *Lotus 1-2-3*.

Asked why IBM was conspicuously absent from the line-up of hardware cheerleaders for *Windows/386*, Microsoft Chairman Bill Gates snapped, "IBM has always been fully hardware supported (by *Windows* products). That's the difference." He added that *Windows/386* will run on the IBM PS/2 Model 80.

Recommended for at least a two megabyte RAM system, *Windows/386* will sell separately for $200.

CONTACT: Marty Taucher, MICROSOFT, 206/882-8080

Correction:

In last month's Newsbytes Macworld Expo report, it was incorrectly stated that registered users of *Ready-Set-Go* would be able to purchase Letraset's new *ImageStudio* product for $75. According to Michael Rennert of Letraset, this information is inaccurate; the correct price of the *ImageStudio* package is $495.

MicroTimes regrets any inconvenience caused by this error. For further information, call Letraset at (201) 845-6100.

Omnis For PCs

FOSTER CITY, CA (NB) — Blyth Software, famous for the *Omnis 3 Plus* multiuser database, has leaped into the IBM world with Omnis Quartz, a relational database application generator developed for PCs operating in the *Windows/386* environment. The graphics interface is similar to the Macintosh product; *Omnis Quartz*'s "create-your-own" kind of database offers several shortcuts such as "buttons" for executing procedures, pull-down menus, and WYSIWYG reporting.

Why did they add the IBM world to their product market? "The Mac and IBM coexist as dual industry standards. Other leading software vendors, such as Aldus and Microsoft, have recognized this," says Michael Kenny, Blyth president. (In other words, the grass is always greener when you're sitting on the fence.)

CONTACT: Lori Thomas, BLYTH SOFTWARE, 415/571-0222

Borland Unveils *Quattro*

SCOTTS VALLEY, CA (NB) — Unafraid of Lotus' legal muscle, Borland International has unveiled a spreadsheet, *Quattro*, which can take on the "look and feel" of the Lotus product (or any of several others), thanks to a changeable user interface. Borland hopes *Quattro* will at least win a share of the *Lotus 1-2-3* market, which now comprises 70% of all spreadsheet software sold. Ben Rosen, the venture capitalist behind VisiCorp, then Lotus, and now Borland, predicted that 50,000 copies of *Quattro* will sell during its first six months, sales which would capture 10% of the market.

The $195 spreadsheet, priced far below Lotus' competing $495 product, executes commands and recalculates much faster than *1-2-3*. Boasted Borland founder Philippe Kahn, "This program is speed, speed and speed. That's what customers asked for." He added, "We're not starting a war. It's the first time really there is a faster alternative to Lotus. We can coexist with Lotus."

Quattro has pull-down menus with commands similar to *1-2-3*, but can be customized to resemble the popular spreadsheet even further. Other features include file and macro compatibility with *Lotus 1-2-3*, integrated graph printing with PostScript support, automatic save functions in case of unexpected power interruption, and no copy protection. The product is expected to be available within the next two months.

The traditionally stingy Borland plans a big advertising blitz for *Quattro*, and is expected to spend an estimated $2 million dollars this fall for the roll-out.

CONTACT: Dick Gorman, Product Mgt., BORLAND, 408/438-8400

PC Excel Due; Borland Unconcerned

REDMOND, WA (NB) — Microsoft is expected to announce a PC version of *Excel*, its popular Macintosh spreadsheet. The program is expected to have a graphic interface similar to the Mac version by exploiting the graphics features of the PS/2 line of IBM computers. While analysts are anticipating great success for the spreadsheet, Borland's Philippe Kahn is downplaying the product, calling it full of "tradeoffs" required in the porting of a Mac product to a PC. He says speed, performance, and the size of code are all reduced in the PC version.

Kahn has been making great sport of Microsoft for some time, most recently calling its coming OS/2 "BS/2," much to the dismay of Microsoft's Bill Gates, who stood in the sidelines and fumed at Kahn when he made this remark during a recent industry conference. Our sources say Microsoft, in Europe anyway, has struck back by creating a T-shirt that reads "Delete Philippe."

Kapor, Other Heavyweights In New Startup

SAN FRANCISCO, CA (NB) — The word is go for Go Corporation, a San Francisco-based start-up whose staff includes with the brightest minds in computerdom, and whose chairman is none other than Lotus founder Mitch Kapor. Joining Kapor in an endeavor to create "a new class of personal productivity applications" is Robert Carr, former chief scientist of Ashton-Tate, and Jerrold Kaplan, former "principal technologist" at Lotus. While the team is tight-lipped about its plans, word is they're working on an idea that goes beyond conventional spreadsheets, databases, and word processors into the realm of artificial intelligence. Lotus is injecting cash; so is Vinod Khosla, a co-founder of Sun Microsystems and Daisy Systems; the venture capital firm of Kleiner Perkins Caufield & Byers is also a part of Go's check-writing department.

The staff of seven is expected to grow to 10 within its first few weeks, and the company will move from a condo on Lombard to an office in San Francisco's quickly developing South of Market area. The team has yet to decide what hardware their software will run on, but they reportedly have a good 12 to 18 months to decide, and to create the visionary programs with which they've been charged.

Atari Ships Megas

SUNNYVALE, CA (NB) — Six months after their announcement, the Mega STs, now called the Mega-2 and Mega-4, are finally reaching retail shelves, according to Atari spokesman Neil Harris. The models, with two and four megabytes of basic RAM, respectively, have been selling well in Europe and have finally cleared FCC hurdles to reach the U.S. market. Priced at between $1,700 and $2,600, depending on options, the Megas are positioned against the Macintosh SE market as a cheaper and faster alternative to the Apple. "The Megas not only run 1,000 software titles but emulators allow them to run Macintosh, PC, and CP/M software," says Harris.

The Mega 2 and 4 are fully compatible with the 520 and 1040ST computers and have several new features, including a detached and improved keyboard, an internal slot for add-on boards, a faster speed, and a "blitter" chip which quickly moves memory and is useful for tasks such as scrolling of texts.

Atari is expected to announce a ship date for a 20 megabyte hard disk drive for the Mega 2 and 4, and a laser printer, to be priced at around $2,000, within the next few weeks. Harris promises these will be on display at Fall COMDEX in Las Vegas November 1-5, where there will also be a few "surprises" announced by Atari.

Meanwhile, the Atari PC, which was announced in April, still has no set release date although Harris assures NEWSBYTES that the computer is "definitely not dead."

Toshiba's 80386 Portable

IRVINE, CA (NB) — Toshiba Information Systems says it will begin shipments of an 80386-based,

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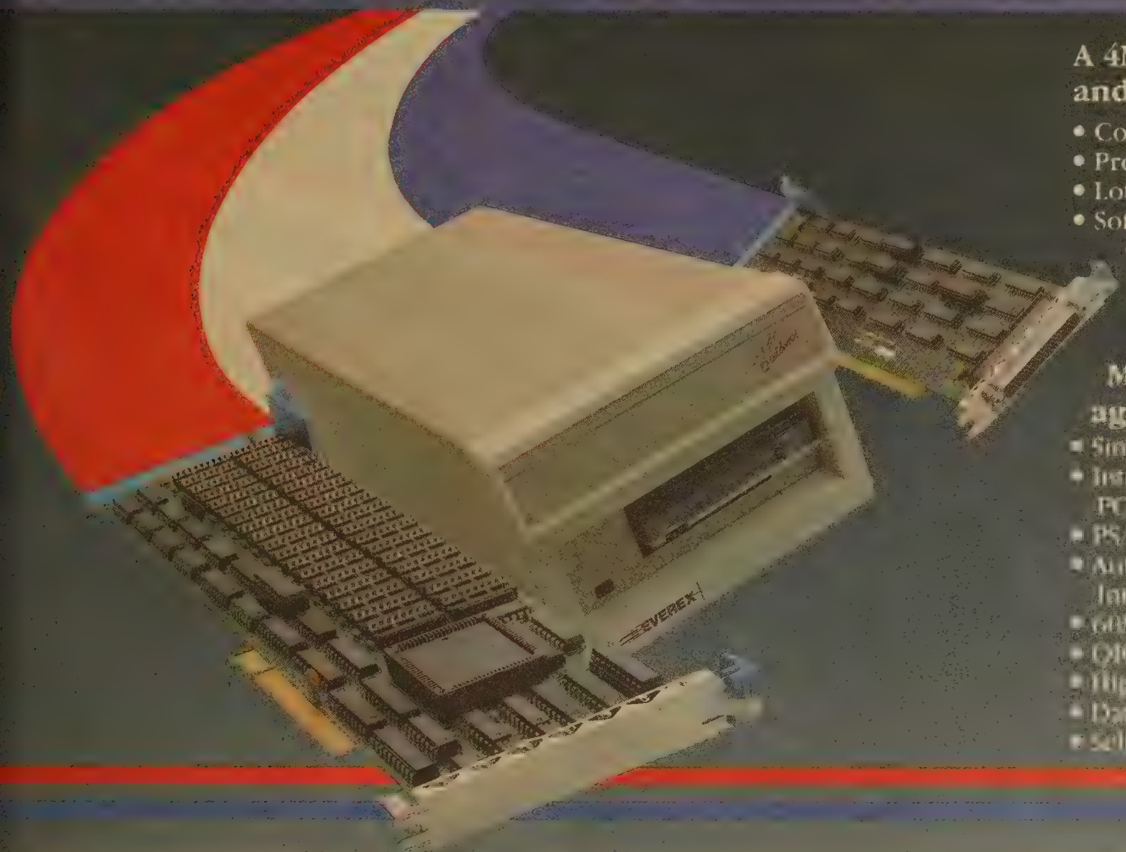

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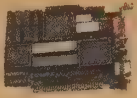

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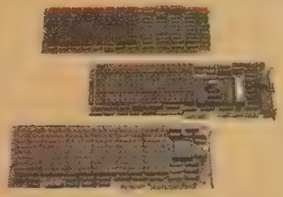

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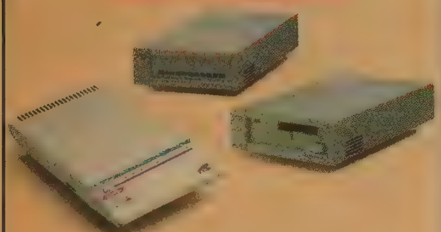

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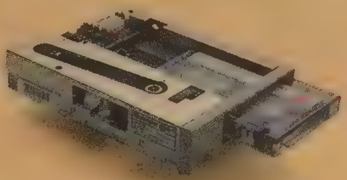

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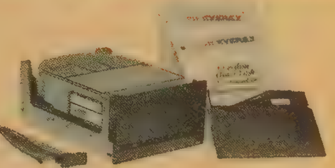

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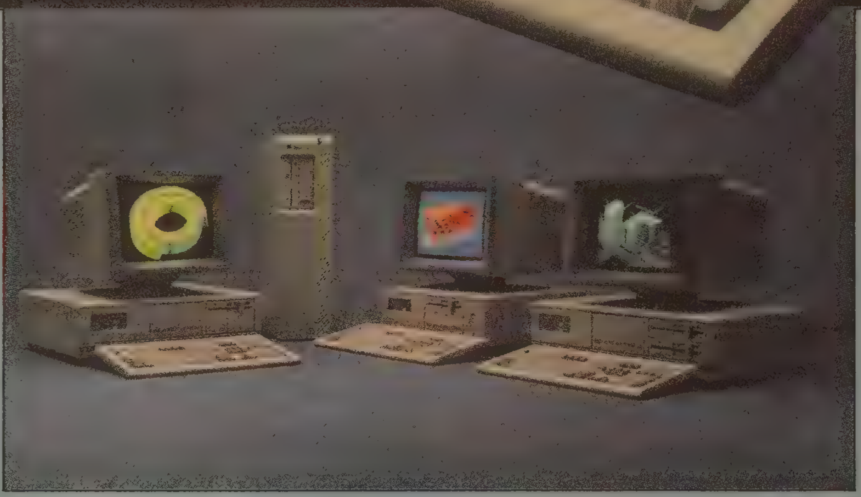

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Options include a two-megabyte RAM expansion board, an internal Hayes-compatible 1200 baud modem, an external 5.25" floppy drive, and Floppy Link, which enables the T5100 to share data with a desktop PC.

While the T5100 cannot run from batteries and requires AC power, its size and power make it the first to bridge the gap between portables and desktop machines. Its unique placement in the hot 80386 arena was a big factor in Toshiba's decision to bring the machine to America. The firm is gambling that America is ready for this power-hungry machine and will pay the high price tag.

To get around current import restrictions, Toshiba will make the T5100 at its new $35 million Irvine, California assembly plant.

New WordPerfect Release Dates

OREM, Utah (NB) — WordPerfect Corporation says the much-anticipated Macintosh version of its *WordPerfect* word processor will ship by November 1 and is "a completely new product, not a port," according to Roger Bell, WordPerfect manager of Apple marketing. The Mac version of the best-selling PC word processor won't have color or other features, which he describes as "still pressing," but will provide the same automatic hyphenation, outlining, and tabbing as the PC version. Unlike the PC version, it will provide interactive WYSIWYG functions for spacing, style, and margin justification. Priced at a steep $395, it will also include a thesaurus.

Version 5.0 of *WordPerfect* for the PC is due out in the first quarter of '88 and will support Adobe's PostScript page description language, will feature a screen capture program to place any screen within a document; text can flow around any picture automatically. The word-processing/desktop publishing package for the PC is to be priced at $495.

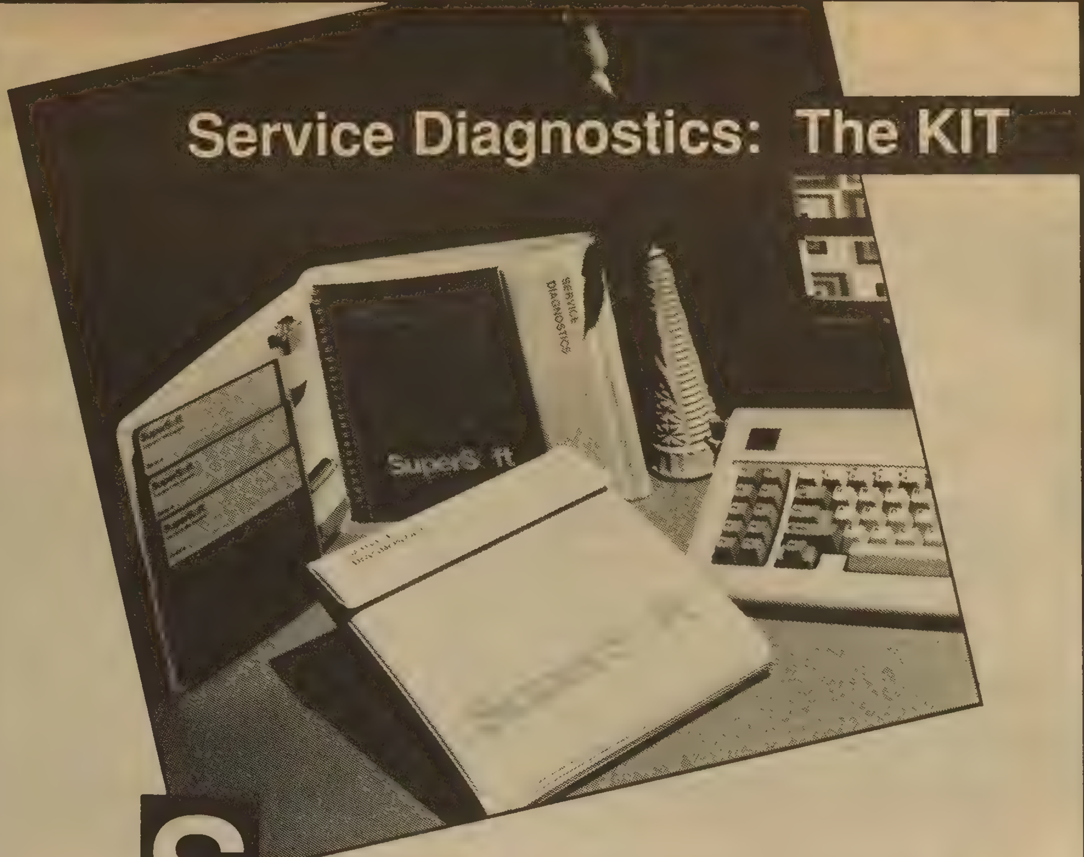
Symantec Acquires Think

CUPERTINO, CA (NB) — Symantec's voracious appetite for mergers has been briefly quelled again by the swallowing of Think Technologies, maker of *Lightspeed C*, *Lightspeed Pascal*, and *InBox*, all Macintosh products. Symantec has previously snapped up Living Videotext, Turner Hall Publishing, and Breakthrough Software. Think Technologies of Bedford, Massachusetts brings more Macintosh clout to Symantec, whose *Q+A* database is its best known product. Gordon Eubanks, Symantec president, was quoted as saying, "Symantec now has the critical mass to become a major player in the software industry as a whole. We believe in the graphical operating environment and that's where the Mac has an 18-month lead." He's also expressed an interest in working to connect the OS/2, DOS, and Macintosh world with interchangeable applications.

No price was publicized for the purchase. Think president Andrew Singer will take the job as general manager of the Think division.

New Vectras From HP

PALO ALTO, CA (NB) — HP has unveiled five new Vectra personal computers, two based on



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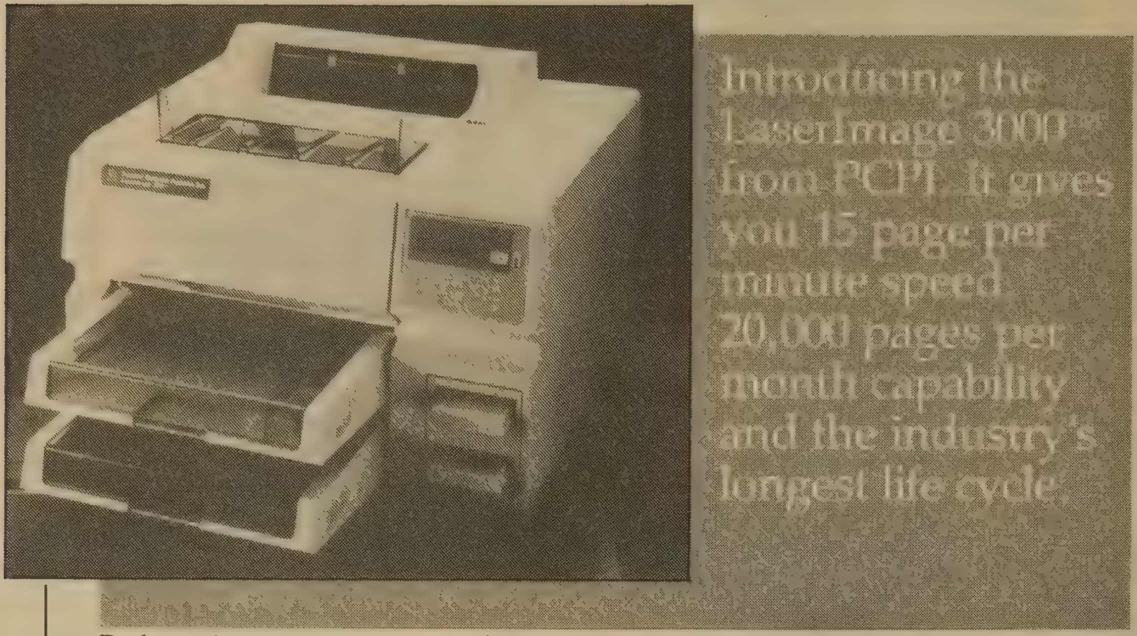
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Intel's 80386 microprocessor, an entry-level PC based on the Intel 8086 microprocessor, and two enhancements of current Vectra models. They all run HP Vectra DOS 3.2, compatible with the MS-DOS 3.2 operating system and the RS and ES series are engineered to be fully compatible with Microsoft's OS/2.

The top-of-the-line PCs, the RS/16 (16 MHz) and RS/20 (20 MHz), which incorporate the super-fast 80386, are designed for use as PC-CAD workstations or LAN servers. They come with one or two megabytes of main memory, hard drives ranging in size from 40 MB to 620 MB. The main memory in each system can be expanded to 16 megabytes; both have eight expansion slots. They range in price from $6,495 to $11,995 and are set to ship to retailers in the first quarter of '88.

The entry-level PC, the CS, with 640K, comes with one floppy drive and/or a 20 megabyte hard disk drive, and costs $1,195 to $1,895. It's slated to be available November 1.

The ES series, the upgraded Vectra PCs, have 640K of memory expandable to eight megabytes. The system supports up to three disk drives and hard drives up to 40 megabytes. Prices range from $2,595 to $4,195. They're available now.

A choice of two special bundles is offered for desktop publishers; buyers can choose an ES PC with a 20 meg hard drive and monochrome monitor or an HP Vectra ES/12 with 20 meg or 40 meg hard drive and an enhanced graphics display; both come with Microsoft *Windows*, *PageMaker*, HP Vectra DOS 3.2 and an HP Mouse. Prices range from $4,389 to $6,479.

"We now have a full line of workstations for all levels of price and capability," boasts Robert Puette, general manager of HP's PC business unit. Analysts reacted favorably to the announcement. Most saw the move to broaden Vectra offerings as good.

Privacy Bill Vetoed

SACRAMENTO (NB) — Despite the fact that both houses of the California legislature passed revolutionary new legislation aimed at protecting workers and the public from subliminal computer messages, California Governor George Deukmejian vetoed the bill, saying it would have been difficult if not impossible to enforce. Introduced by Assemblyman Tom Hayden, the progressive measure would have banned the use of subliminal flashing messages on computer screens, now being employed by a scattering of businesses, to influence their employees. Such messages as "keep working" or "you're not working as fast as the person next to you" are among the more insidious uses of the technology. Hayden plans to reintroduce the bill in January, but unless he changes the wording, which the state's Department of Industrial Relations calls "indefinite, uncertain, and ambiguous" chances are the governor will not pass it again.

California Telecommuting Project

SACRAMENTO (NB) — Starting in December, some 200 employees of the state's General Services, Transporatation, Fish and Game, Energy, and Franchise Tax departments will be telecommuting to work — using their computers at home or at local offices to process data. The goal of the project is to test the viability of telecommuting, its ability to save money, time, and energy. Volunteers have been solicited for the project, which reportedly will involve clerical, professional, and managerial workers. The director of the project, David Fleming, says, "What we want to be able to do is transport ideas and information instead of people."

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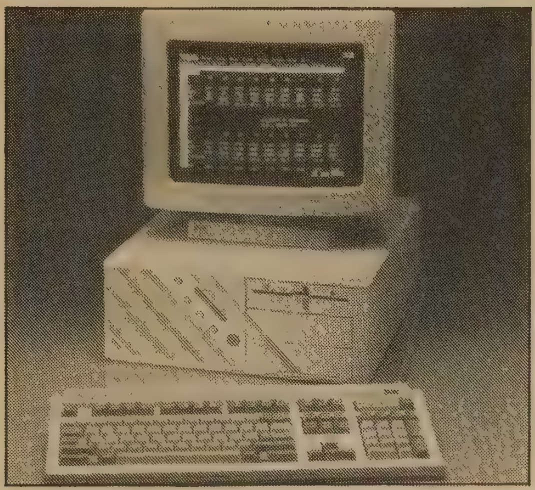

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The WYSEpc 286 Model 2108 is designed to provide the best value in a PC AT-compatible system. It is based on the 16-bit 80286 processor running at 8 MHZ (one wait state) and comes standard with 512 K, 1.2 MB internal 5 1/4″ diskette drive, serial/parallel adaptor and seven PC-AT-compatible accessory slots (five 16-bit and two 8-bit slots). The model 2108 is based on the WYSE Modular Systems Architecture, which allows you to increase your systems performance as your needs grow.

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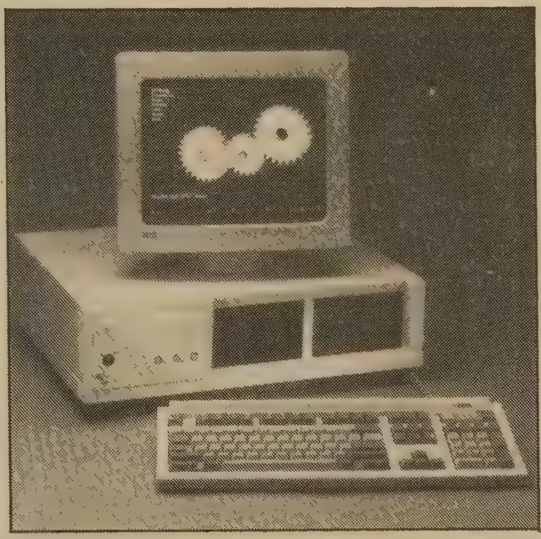

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On The Firing Line

Windows To The Future

By Stephan Wickham
and the Diamond Software Technical Team

We are seeing increasing interest in applications that work under the Microsoft *Windows* operating environment as IBM's OS/2 operating system looms on the horizon. Users don't have to wait for OS/2 to gain some of its advantages: Microsoft *Windows* offers, in its current version 1.04 and by the end of the year in version 2.0, many of the benefits of the Presentation Manager component of OS/2.

Face it, a graphical operating environment is a superior one, *if* a computer is powerful enough to support it. Many users are reluctant to change, and knock technology that can make life easier and more interesting. A number of you, I am sure, have used an old CP/M graphics package that uses Xs and Os to form the graph or drawing. Now, the differences between windowing operating environments and plain PC-DOS are just as significant as the differences between PC-DOS and CP/M.

The main reason Apple's Macintosh is popular is that there is a class of users who recognize the very powerful benefits of using a graphical interface. Graphically based front-ends offer a more fluid and more natural way to communicate with your computer!

The advent of windowing operating systems goes hand-in-hand with the introduction of new processors and video cards (especially the graphics cards with a separate graphics processor chip on-board). We don't endorse the addition of Microsoft *Windows* on 8088-based computers, but if you have an 80286 or 80386 you can get nice performance. Luckily there has been a very large shift in the corporate world to 80286 and 80386 computers. Many of these now run at 12-16 MHz, with 0 wait states—an ideal *Windows* engine. We are finally getting real machine power, and now it is time for the applications software to catch up with this new-found horsepower.

Windows Graph

Enter the world of *Windows* applications. Micrografx was one of the first companies to offer applications that worked in the *Windows* world and is currently one of the leaders. *Windows Graph* is one of their latest introductions—a flexible charting package that's a nice addition to the library of a serious *Windows* user.

We have found *Windows Graph* a neat charting program to use with Aldus *PageMaker*—charts made with *Windows Graph* can be simply popped into *PageMaker* designs. In addition, data can be easily imported from the leading spreadsheet packages or entered by hand into a convenient built-in worksheet. There is support for *Lotus 1-2-3* WKS or WK1 files, *Multiplan* SYLK files and the popular DIF file format.

Data in the worksheet overlays the *Windows Graph* window. This way it is easy to sort and manipulate the data. The program also offers some math capability. The user highlights data to be graphed, then selects a graph style through a couple of pull-down menus. *Windows Graph* is able to do bar, area, line, table graphs, column, pie and scatter charts. Other graphs, such as hi-low, are available though the options pull-down menu. *Windows Graph* is able to send output via *Windows* to other popular applications like *Windows Write* and *In*a*Vision*. It is wonderful to use a package that does not use a proprietary, difficult-to-master user interface.

Windows Graph is able to do a variety of page sizes starting with 8½″×11″ and going up to 16″×22″. A group of pages can be combined into a large virtual page of up to 33″×34″ inches.

Where *Windows Graph* really comes into its own is in the graph editing mode. The graphs that are produced and the titles and legends are treated as individual "symbols." If one of the symbols is selected with the mouse a box will appear with handles at the corners and sides. It is possible to click on a symbol with the mouse and change the horizontal and vertical dimensions of the object. It is also very easy to click on the center of the symbol and then move the object into a new position by dragging. With this technique it is possible to have more than one graph on a page—positioned however you want. The same holds for titles and legends—you are free to put as many on the page as you want. There are also some nice paint program type tools for enhancing graphs like line, arc, circle, ellipse, square, etc. Other pull-down menus make it possible to add grids or specify jointed, stairstepped, stacked or unstacked bars and much more.

This package is fun and powerful. We are offering a free demo to "On the Firing Line" readers, but you must have *Microsoft Windows* for it to run. Call us and mention the free demo to receive yours today.

Windows Draw

Another popular Micrografx package is *Windows Draw*. With this program you can easily create illustrations, flowcharts and presentations. Anything you can do with a pencil on paper you can do with a mouse and *Windows Draw*. If your input or output device is supported by Microsoft *Windows*, it is supported by *Windows Draw*. The package is currently bundled with *Windows ClipArt*, which contains over 1,000 professionally drawn images. This is most likely the best of the corporate-level drawing packages for most general users. You can use it to enhance graphs from other packages, much like *Freelance+* is used with *Lotus 1-2-3*. Or use it on its own.

Windows Draw supports 11 drawing modes such as arc, ellipse, line, pie, text, etc. There are seven alignment modes options: ruler, left, center, right, top, middle, bottom. The options support align, combine, break-apart, duplicate, flip, rotate, move-to-top and move-to-bottom. The drawing page can be viewed in a number of different fixed sizes. The pattern option pull-down menu supports a wide variety of patterns, hatches and colors for fills. A wide variety of type faces are available in 15 different point sizes. New fonts can be added as they become available without updating the program. A free demo diskette is also available for this program. You must have *Microsoft Windows* to use this demo.

In*a*Vision

For users needing more drawing power than *Windows Draw*, there is *In*a*Vision* from Micrografx. *In*a*Vision* is most likely the best of the current crop of *Windows* applications.

*In*a*Vision* and other object-oriented drawing packages should not be compared with paint packages, such as *Windows Paint*. In a typical paint package the drawing you create is a section of your screen's bit-map pattern, and dots are turned either on or off. This bit map pattern can't be easily changed after it's created. On the other hand, an object-oriented drawing package makes it possible to copy or move shapes, change their pattern and fill pattern tone, scale them, put them on top or below other objects and combine. *In*a*Vision* is more than a drawing package. It is for engineers, designers and architects and can be used for CAD drafting support, design ideas and drawings. A businessman can also use it to create top-rate presentation materials or produce flow charts and organization charts. *In*a*Vision* is simple for the novice, but powerful enough for the CAD professional.

Design creation is as simple as moving your mouse, pointing, and clicking—you will be drawing faster than ever before. It is very possible to learn *In*a*Vision* just by using it. The pull-down menus accessed via a mouse eliminate the complexities of traditional software. Most novices will become productive in a short period of time.

*In*a*Vision's* biggest difference over other object-oriented drawing packages is its ability to handle a huge drawing area. Your drawings can be as large as 4,624 square inches (68×68 inches). *Windows Draw* is limited to 1,156 square inches. *In*a*Vision* has a special capability over lesser drawing packages with its overlay feature. Each overlay is a separate layer—independent of the other. *In*a*Vision* has all the bells and whistles needed for professional CAD.

If you have any questions about Micrografx or Microsoft products, call Diamond Technical at (415) 633-2589. We are at your service. If you would like to place an order for either *Microsoft Windows, Windows Graph, Windows Draw* or *In*a*Vision*, call Diamond today at (415) 633-2588 for your special price.

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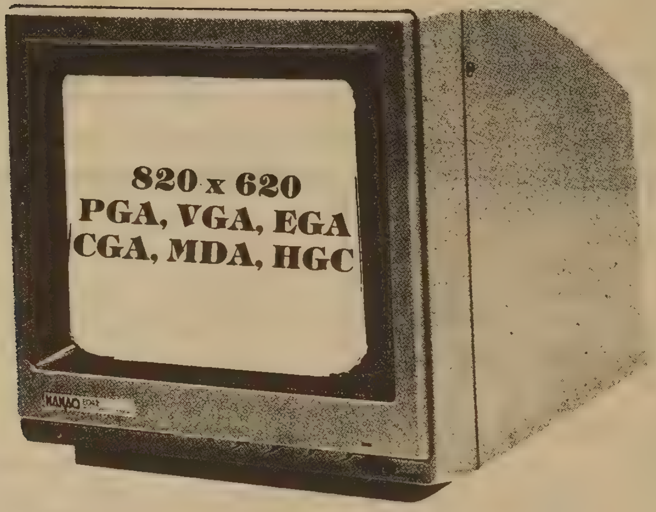
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Osborne Challenges Lotus To Arbitrate

SAN FRANCISCO, CA (NB) — Calling first quarter sales of *VP-Planner* "disastrous" due to a copyright infringement suit filed against his firm by Lotus Development, Paperback Software's Adam Osborne has called upon Lotus' President Jim Manzi to settle their dispute out of court. "If Mr. Manzi wants to resolve this case, then I challenge him to take the IBM-led way and go to arbitration," he said, charging that Manzi was trying to bleed Paperback Software with excessive legal fees as the case drags on.

Lotus filed the suit in January, saying that *VP-Planner* comes too close to the "look and feel" of *Lotus 1-2-3*, and raising issues of copyright infringement, false advertising, and unfair trade practices in its $10 million lawsuit. Osborne says Lotus lawyers have postponed the disposition process four times, allowing the attorneys from both sides to rack up hundreds of thousands in fees. Osborne says his firm's legal costs are being funded by a liability insurance policy, but the real cost of the dispute is measured in sales.

Meanwhile, Osborne showed off a new version of the software in question, *VP-Planner Plus*, which features a revised interface that is not as similar to *Lotus 1-2-3*. The program still runs and writes to *Lotus 1-2-3* 2.0 files, but it does not support the AboveBoard memory specs, matrix arithmetic, and several other features of *Lotus 1-2-3*. The price is set at $179.95, up from $99.95 for *VP-Planner*.

Lotus' attorney Henry Gutman has reportedly called Osborne's proposal "very interesting" but has not initiated any action to follow up on it.

Epson Unveils New Machine

TORRANCE, CA (NB) — Epson has introduced two new micros, a 12-pound laptop called the LT, and a PC AT-compatible, Equity II+. The laptop, priced at $1,895 ($2,995 for a 20 megabyte hard disk version) comes with one or two 720K 3.5" floppy drives, an AT style keyboard, and is based on the 8086-compatible NEC V-30 microprocessor.

The 80286-based machine, the Equity II+, replaces the Equity II. The basic unit comes with 640K and one 1.2 megabyte disk drive. A 40 megabyte hard disk comes on a higher priced unit — $2,795. Will Epson launch an 80386 machine soon? There's no official word, but this quote is worth repeating. Epson's Peter Bergman, director of marketing, told BIX's Nick Baran that 80286 machines will dominate the market for the next two or three years. He says for most users, owning an 80386 system "is like commuting across the Bay Bridge in a Ferrari. It might feel good but it doesn't get you to work any faster."

Advances In ISDN

ATLANTA (NB) — ISDN, a standard under which all phones will be digital and modems unnecessary, will be online November 1 in Minneapolis and in Atlanta January 1. Over 10% of American phones could be hooked in by the end of 1989, according to NEWSBYTES sources at US West, BellSouth Corp., and AT&T. Hayes is testing PC cards for ISDN. In production they could retail for only $200 each, and there are 150 million U.S. phone lines as a potential market. Also, Northern Telecom of Nashville recently announced a networking system which works with many vendors' equipment, and is compatible with IBM's NetView and ISDN.

What does this mean? This week, not too much. Big businesses will be getting the new phone lines much faster than the rest of us. (It takes an adapter which should cost about $200 in quantity.) But it does mean your friendly local phone system is

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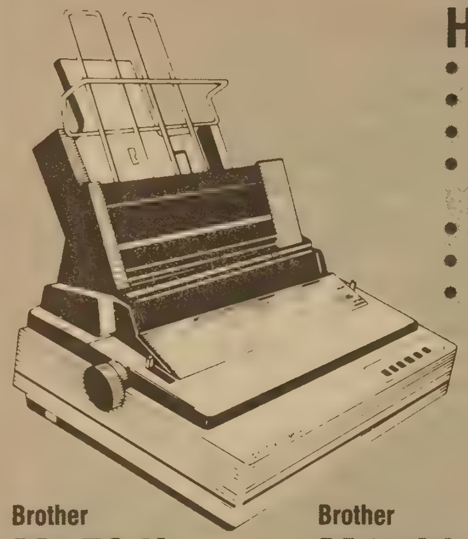

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M1724L
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- 216 cps - 72 NLQ
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- graphics
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- one inch paper cut
- 24K buffer
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Brother
M1509
- 180 cps - 45 NLQ
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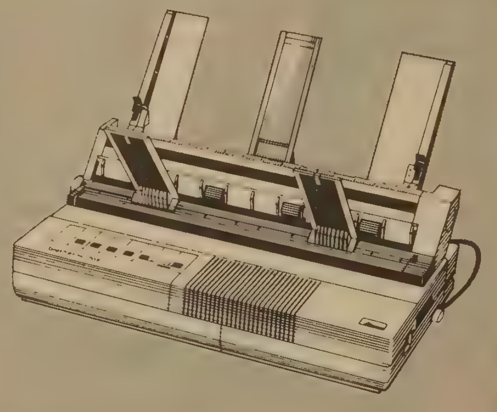
- tractor feed
- 16.5″ paperwidth
- 3K buffer
- auto paper load
- graphics
- one inch paper cut
- less than 58 dB(A)



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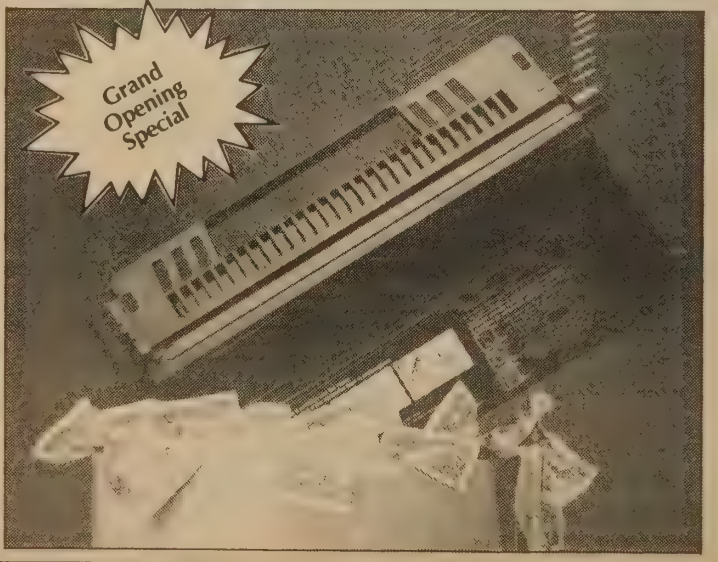

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IBM Sales Trends

BOSTON (NB) — International Business Machines Corp. says sales of its personal computers have increased 40 percent in the first seven months of the year. Big Blue says sales of its new PS/2 machines hit one million by the end of September. But at the same time, market analysts say IBM's share of the PC market continues to fall in the face of the clone assault. IBM Entry Systems Division President William Lowe told securities analysts in Boston that 1987 will be a record year for IBM personal computer products.

Lotus Speed-Up Now Available

CAMBRIDGE, MA (NB) — With new and powerful spreadsheet competitors hot on its heels, Lotus Development Corp. says its long-awaited *Speed-Up* program is now available. It's free, from selected 1-2-3 distributors, or for $20 in handling and shipping direct from Lotus. Included is a program called "Learn" that remembers keystrokes, making macros easier. *Speed-up* makes spreadsheets run faster because it recalculates only changes, rather than the entire spreadsheet. The program was due last month, but proved more difficult to engineer than the Lotus marketers expected.

PostScript Clones Unveiled

SANTA CLARA, CA (NB)—The Seybold Conference was a forum for a variety of new PostScript clones, a development which heralds the dawn of less expensive PostScript-compatible laser printers. Control-C of Portland, Oregon showed off CCS-Page, which was demonstrated on two printers from Nissho Electronics of Irvine, CA. The language can be made PostScript-compatible, says Joe Friedman, Nissho's marketing director. The language is to be made available to OEMs in January. Also announced were PostScript clones from Phoenix Technologies and The Company. And Printware of St. Paul, Minnesota showed PrintScript, its PostScript-like option on its current laser printer.

Adobe Alliance With Quadram and QMS

MOUNTAIN VIEW, CA (NB)—Adobe has entered into licensing agreements with two firms that promise to produce the world's cheapest PostScript laser printer upgrade and the world's first color PostScript printer.

Adobe has announced that Quadram, of Norcross, Georgia, has licensed PostScript for its new QuadLaser PostScript Printer. The QuadLaser PostScript will retail for $3,995 and the earlier model of this laser printer, the QuadLaser I, will offer a PostScript upgrade for only $1,895. That makes it the lowest-priced PostScript upgrade available on the market. Both the QuadLaser PostScript printer and the upgrade are scheduled to ship in November.

Meanwhile, QMS, Inc. has announced plans to manufacture and market a color printer utilizing Adobe's PostScript interpreter. Based on the 300 dots per inch Mitsubishi G650 color thermal marking engine, the laser printer will have 35 resident fonts, and will be released in the first quarter of '88. No price has been announced.

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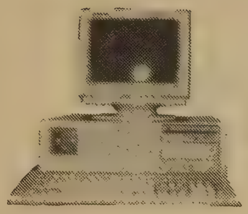

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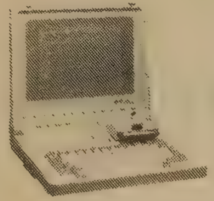

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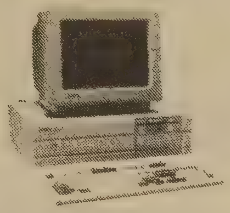

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New Mac Interleaf Software

SANTA CLARA, CA (NB)—Interleaf, of Cambridge, Massachusetts, famous for $15,000 publishing software for sophisticated Sun, DEC, and IBM workstations, has announced a version of its software for the Macintosh II which has nearly all the features, but a fraction of the cost—$2,495—of its predecessors. Available in November, the software is said to have full word processing capabilities and state-of-the-art graphics creation, all in one integrated program. It is aimed at book and manual creators with its ability to automate page layout up to thousands of pages. The software requires a Macintosh II with 5 megabytes of RAM and a 40 megabyte hard disk. Said John Sculley of the program, *Interleaf Publisher,* "It's probably the single most powerful application that has ever been put on a Macintosh."

Ethernet On Common Phone Lines

SANTA CLARA, CA (NB)—Local area network manufacturer 3Com has announced a new system to allow computers on a network to share information via common telephone system wiring. The new technology, developed with Digital Equipment Corporation, is considered a breakthrough; common phone wiring is far less reliable than shielded coaxial cables conventionally installed to connect networks. Information travels as fast as 10 million bits per second, but making it work wasn't easy. Says Harry Saal of Network General of Mountain View, "It's a bit like driving 180 miles per hour down a two lane road. It can be done, but you better have nerves of steel." The announcement is expected to enhance the attractiveness of Ethernet for offices interested in networking, providing them with a variety of options to connect their computers.

Softview To Sue Apple

CAMARILLO, CA (NB)—Softview President Susan Morgan is reportedly ready to take Apple's Claris software spin-off to court over confidential information it allegedly has regarding Softview's marketing and product plans.

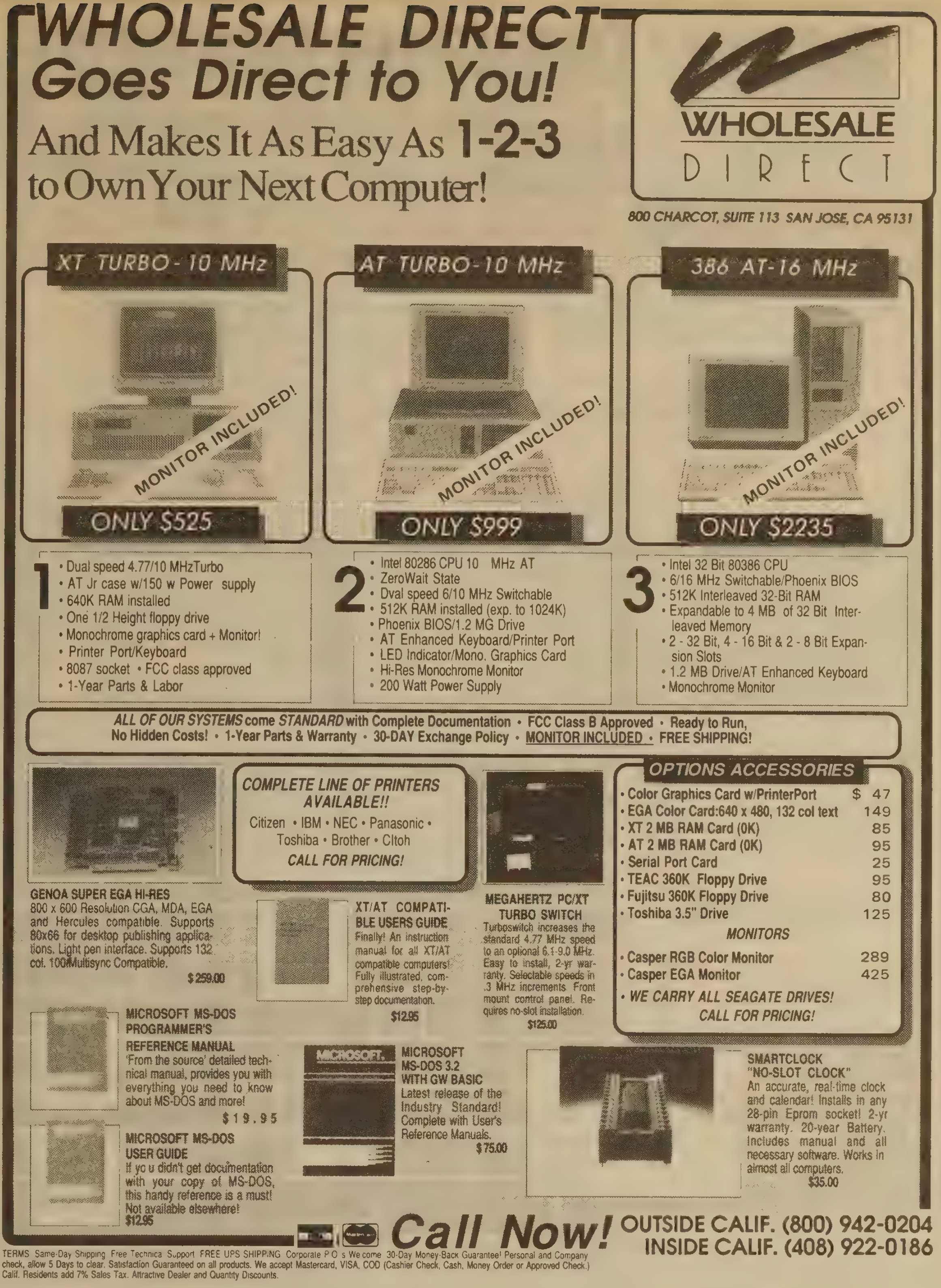
The spat began when Softview approached Apple's John Zeisler regarding a co-marketing agreement between Softview and Apple involving Softview's *MacInTax* and a generic forms generating program. "He was really excited about it," says Morgan. Things got less interesting, however, when Ziesler, suddenly of Apple's Claris Corporation, demanded the source code for the products, she reports. Softview balked; within weeks Claris was courting other companies specializing in forms generating software. "They have solicited proprietary information under the guise of a co-marketing agreement," says Morgan. Steaming mad, she's preparing legal action.

Zeisler, who could not be reached for comment by NEWSBYTES, has stated of the dispute, "I'm not aware of any conflict of interest because I'm not aware of any confidential information that she gave to me."

CONTACT: Susan Morgan, SOFTVIEW, 805-388-2626

AppleFest Report

SAN FRANCISCO, CA (NB)—The revived AppleFest, September 18-20 at San Francisco's Civic Center, was advertised with a more than $100,000 budget by Apple and Cambridge Marketing, and while official crowd figures have not been released, most exhibitors NEWSBYTES contacted said they were disappointed with the turnout. It was clearly not attracting (nor designed to attract)



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the average DP professional crowd. Primarily featuring educational products in conjunction with Computer Learning Month festivities, the AppleFest featured a wide variety of school and home learning software products, a classroom of the future exhibit, and lots of families, kids in tow.

Some new product announcements worth mentioning:

Activision demonstrated the first two of what it promises will be a series of "stackware" products for the Macintosh—*Focal Point*, a desktop management system complete with calendar, phone dialer, notepad, name and address file, etc., and *Business Class*, a program for travelers providing them with information about climates, currency exchanges, online system connections for airline and hotel info, and other important data. *Business Class* is scheduled to ship in December at $70; *Focal Point* will cost $100 and will also go on sale in December.

Applied Engineering had its first public showing of PC Transporter, a hardware/software combo that turns an Apple IIe or IIGS into an IBM-compatible capable of running most MS-DOS applications. Slated for shipment at the end of October, the PC Transporter is priced at between $489 and $609, depending on RAM memory options from 384K to 768K; the IBM-type disk drive, with the Apple-to-IBM translator card built in (required hardware for an Apple IIe configuration) costs $269. Chuck Carpenter of Applied Engineering told NEWSBYTES he's received several hundred orders so far, and the product is available mail order from Applied Engineering or in selected retail stores.

CONTACT: APPLIED ENGINEERING, Carrollton, Texas 214/241-6060

Brøderbund demonstrated *Jam Session*, a music program for the Macintosh just acquired from Bogas Productions. Featuring the ability to play six voices and a variety of synthesizer sounds at once, a riff editor, and preprogrammed compositions in rock, jazz, country or classical, *Jam Session's* cute feature is an on-screen band that plays your music. (For example, chickens cluck in response to your hitting keys during the country jam.) Scheduled to ship in October and will retail for $49.95. (NEWSBYTES also heard that Bogas' high-level music program, *Studio Session*, will become a Brøderbund offering sometime next year. That is a far more sophisticated program designed for music editing and composition in conjuction with MIDI-interfaced equipment.)

At least three desktop publishing packages were on display. **Softsync's** *Personal Newsletter* provides the II with word wrap, cut and paste, unlimited columns, and newspaper style headlines. It imports files from *Print Shop*, *Newsroom* and *Dazzle Draw*, and retails for $59.95. *The Personal Publisher* came from **Milliken Publishing** of St. Louis. This $195 desktop publishing program features all of Softsync's assets and comes with a 500-picture clip-art disk, thesaurus, and spelling checker and dictionary. It requires a IIGS with 1 megabyte of RAM. **Springboard Software**, Minneapolis, showed *Springboard Publisher*, a $139.95 program which offers all of the above, plus an integrated word processor and on-board graphics tools. Additionally, Springboard is offering laser drivers to output the product to a PostScript printer.

Phone-Based Videotex Service

MILL VALLEY, CA (NB)—Move over Minitel, it looks like America is about to get its own videotex system via the phone lines. Guinness Videophone Telecommunications Educational Network is about to launch a regional videotex service for the Marin County and San Francisco areas. Subscribers will be required to rent a videophone for $10 a month to hook up to the service, which will offer

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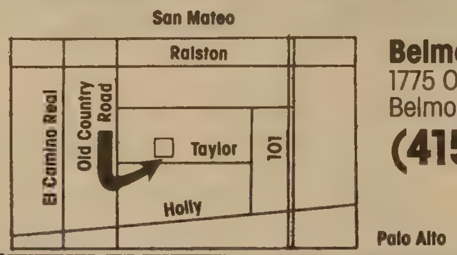

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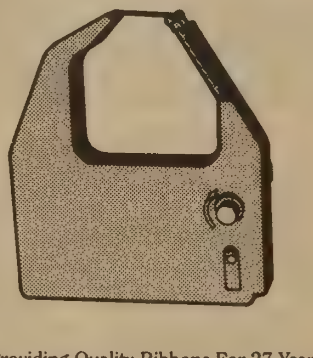

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The searchable yellow pages will provide specific information tailored to your individual requests, according to Lawrence Guinness, founder of the company. "For instance, if you want a restaurant with a deck that serves Eggs Benedict in Sausalito, you'll be able to find it." The yellow pages will be composed of advertisers who pay a modest fee to list details about their businesses.

Additionally, the network will feature an airline reservation service, a library of topics, electronic mail, computer "chat, " and educational programs geared toward grade school children.

The videophone will have several uses besides viewing text. It will be able to record up to 90 phone numbers and will have a calendar which can be programmed to "beep" a reminder at you, even when the unit is not in use.

Guinness told NEWSBYTES the service will be publicly launched within two months. It has been under development since 1971. If successful in the Bay Area, the network will expand to include other regions of the country.

CONTACT: Lawrence Guinness, GVTEN, 415/381-0111

Software Search Service

YUBA CITY, CA (NB)—The name is Softwhere? and it's a firm designed to track down any software need you can name. "We keep information on thousands of programs," says founder Shareen Punian. "Many computer users, especially new ones, are baffled by software packages available and often make poor choices." Softwhere? sounds like an unique way around this dilemma. To get a free brochure "Guide for Selecting Computer Software" write Shareen at the address below.

CONTACT: SOFTWHERE, PO Box 3336, Yuba City, CA 95992 916/674-3688

Wozniak's President Quits

LOS GATOS, CA (NB)—Just as Steve Wozniak's CL9 is about to ship its long-awaited remote control device, the firm's president Sam Bernstein has quit. Sources say Bernstein and Wozniak had it out over a manufacturing problem that has since been resolved, but the dispute left hard feelings. "It was either him or me," Bernstein says, but will not give any details of the falling-out with the Apple founder. The $199 remote control device manager is slated for shipment this month to Circuit City chain stores and the Sharper Image catalog company.

Pixar Sues French News Service

SAN RAFAEL, CA (NB)—Steve Jobs' computer graphics company Pixar has launched a trademark infringement suit against the French news service Agence France-Presse and its Washington bureau. Pixar objects to the service's use of the name Pixar for its own computer system being sold to its customers. The nine-count complaint was filed in federal District Court in San Francisco.

Apple Buys Chromaline

LOS ALTOS, CA (NB)—In its fourth acquisition since starting its Strategic Investment Group, Apple Computer has made a major investment in Chromaline, a small company designing a device that will make 35mm slides from the display on a Macintosh. Details of the device, and the acquisition, are not available. The other three firms in which Apple has invested are Forethought, Sybase, and Touch Communications.

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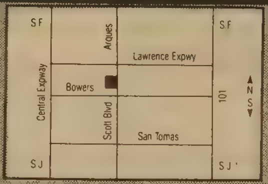

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Apple Acquires IBM Veteran

CUPERTINO, CA (NB) — Apple Computer has announced the appointment of Harold Copperman, a 20-year Big Blue veteran, as manager of Apple's east coast sales, support, and training group. Until recently, Copperman served as IBM's director of marketing for higher education and is very experienced with the college and university marketplace. That's an important source of Apple's income and this appointment is likely to enhance it even further.

Apple Bids For Army Contract

CUPERTINO, CA (NB) — Apple has teamed up with Magnavox to bid on an $800 million contract to supply software and hardware for the Army's battlefield command and control system project. Apple's offer reportedly includes 18,000 Macintosh computers. Alone, Apple might have a slim chance, but teaming up with Magnavox, a large defense contractor, provides it with a better chance of success. Hewlett Packard and Unisys are also expected to bid, according to Charles Berger, VP of market development. The decision is due in the spring.

II Runs IBM Software—Fast

CAMPBELL, CA (NB)—The Apple IIc, IIe and IIGS may become one of the cheapest IBM clones if a Dallas company's product is a success. Designed by The Engineering Company here, the PC Transporter, to be introduced at Applefest in San Francisco September 18-20, will enable a IIc, IIe and IIGS to run "virtually 98%" of all IBM software, a spokesman told NEWSBYTES. The add-in board, which has adapters for monitors and IBM keyboard, will cost around $500. Marketed by Applied Engineering of Dallas, Texas, the PC Transporter will also enable the II line to run IBM software three to four times faster than an IBM XT.

The IIc and IIe computers will require an IBM-type disk drive to run programs, but the IIGS' 3½-inch disk drive will run 3½" size MS-DOS 3.3 diskettes as well as Apple programs, says an Engineering Company spokesman. For more on the PC Transporter, see the current issue of A+ magazine. CONTACT: Dan Pote, APPLIED ENGINEERING, 214/241-6060.

NEWSBYTES SOUTH

By Dana Blankenhorn

Low-Power 80286 Chip

MELBOURNE, FL (NB)—Harris Corp. has unveiled a low-power, CMOS (Complimentary Metal Oxide Semiconductor) version of Intel's 80286 microprocessor, the chip used in the Compaq Deskpro 286 and compatibles.

Michael Graff, Harris' VP for semiconductor marketing, said the new chip is ideal for harsh environments. Analyst Mel Phelps of Hambrecht & Quist, San Francisco, said the new chip will spur development of AT-compatible laptops. Such machines would be very powerful, because the new chip can run at a blistering 16 MHz, but they'd also emit little radiation, and they'll ignore extraneous noise. (The latter points will make the new chip a big seller to cops, spies, and the military.) Both Harris and Intel will be able to manufacture the new chip.

German Teens Crack NASA

Washington, DC (NB)—A group of West Germany teenagers from the Chaos Computer Club penetrated a NASA network recently, saying they were doing it to "test the security."

What they got into was SPAN Net, a computer network with about 700 nodes, which is actually

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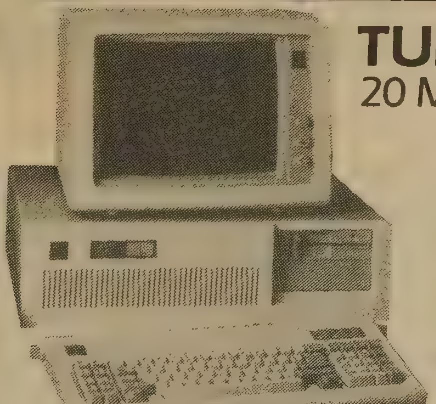

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based at the Goddard Space Center in Maryland. All that's in there is unclassified data, space science information, and post-flight data analysis. "Anyone with NASA-related research can apply for access to SPAN," says a spokesman, who adds the network runs on DEC VAX hardware. "We picked this up in early August. We picked up three attempts to gain access and put in security precautions so it wouldn't happen." His personal opinion is, "We're happy that they couldn't get back in, and decided to go public." He also said NASA has many other networks, many of them classified and "probably impenetrable. But I don't want to challenge anybody."

How'd they get in? Probably they got a West German NASA licensee, which gave them a visitors' pass, then they created new passwords with unlimited security for themselves, after which getting around the network was easy.
CONTACT: NASA, (202)453-8400

Dell's New Systems

AUSTIN, TX (NB)—Dell Computer Corp. aka PC's Limited, is putting together the most powerful equipment for which there are parts in a bid to out-Compaq Compaq and round up higher sales in the MS-DOS market. On September 14 the company announced three new systems. The PC's Limited 286/12 will feature a 150-megabyte ESDI hard drive. (Enough storage for all the graphics files on an 80- page newspaper.) The prices are: $4,399 in monochrome, $4,889 with a VGA monitor. There's also a fast 8088-based box, the 8088 Turbo, with a 40-megabyte hard drive, at $1,399.
CONTACT: John Elliott, DELL COMPUTER (512) 339-6800

QMS Advice To PostScript Users: Wait

MOBILE, AL (NB)—QMS, which turns Japanese laser engines into American laser printers, says its new $2,000 Kiss Plus, with three plug-and-play "personality cards," will mainly support the printer routines of older dot-matrix and letter quality printers. The H-P LaserJet, however, is supported on two plug-in "Personality Cards" which will be released October 31. (If you just want to emulate the Epson FX-80, QUME Sprint, Diablo 630 or ANSI standards, your "Personality Card," the Model 10, will come out this week.) QMS will also soon release a "Jetscript" card which plugs into your PC (the "personality cards" plug into the printer) and lets your QMS laser printer emulate the H-P LaserJet Series II.

Users who need PostScript emulation are advised to wait, or buy one of QMS' older PostScript printers. QMS promises an announcement within six weeks of a new PostScript machine based on the Canon SX engine, which runs at eight pages per minute.
CONTACT: QMS, (205) 633-4300

FCC Charges Much Ado About Not Much?

International Resource Development, New Canaan, CT, says the market bubble for packet switch networks like Telenet is going to burst by 1991, regardless of what the Federal Communications Commission does about access charges. Cheap fiber, which greatly increases capacity, and ISDN services, which let you share a phone line with your computer, will do the business in, the report says. Over the next four years, however, demand for packet-switch services will grow from $650 million to $1,612 million. (If the Baby Bells are allowed to add competition to the market, the $5/hour access charge can't be passed through to customers anyway.)

NEWSBYTES EAST

By Ken Maize

Lotus Drops Copy Protection, Adds New Graphics Package

CAMBRIDGE, Mass. (NB)—Lotus Development Corp., the last major holdout in the copy protection dispute, has announced that its next version of *1-2-3* will be copyable. The company said it reached the decision after talking to corporate customers about its upcoming Release 3.0 of the popular spreadsheet. Lotus has earned considerable animosity among users and a reputation for arrogance for its refusal to drop copy protection. Corporate buyers were particularly upset about copy protection interfering with networked applications of the program, sources at Lotus said.

When Lotus unveils Release 3.0, planned for early next year, industry insiders speculate that it will be available for a wide range of computers beyond the IBM PC and clone world. Look for 1-2-3 Release 3.0 on the Macintosh, DEC VAXs, and a UNIX version. Lotus declines to comment on that, other than to repeat that the company is designing a version of 1-2-3 for IBM mainframes.

In the meantime, Lotus has rolled out a new graphics package, *Lotus Graphwriter II*, an upgrade of the existing *Graphwriter* product. The new program for PCs requires 512K of RAM and a hard disk. Shipments are to start in October.

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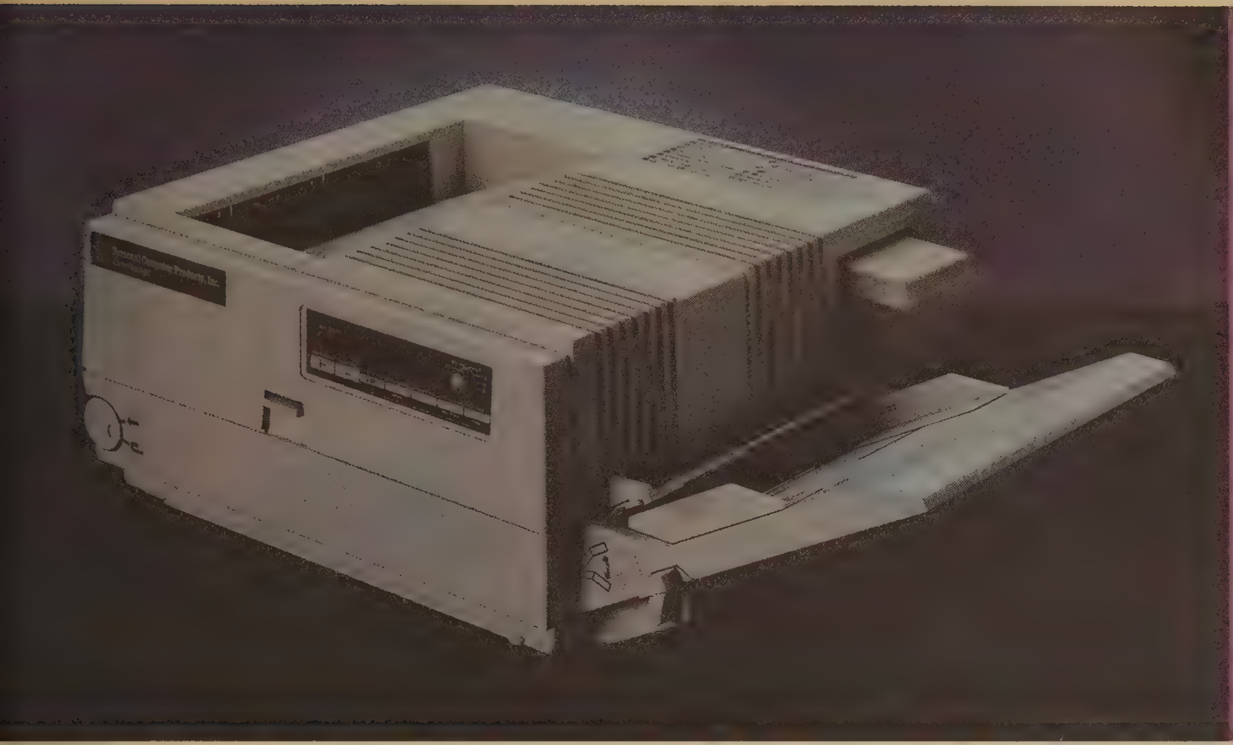

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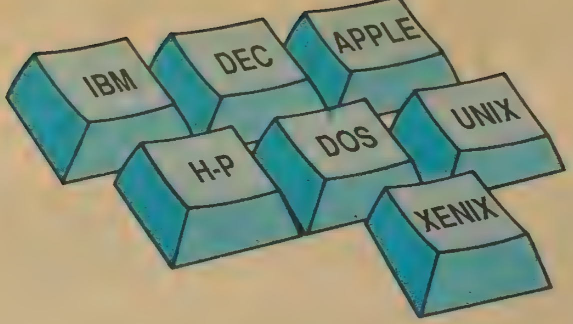

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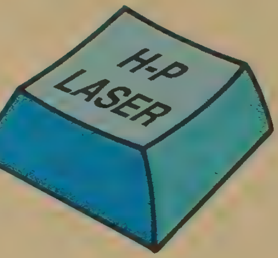

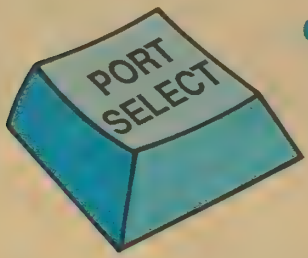

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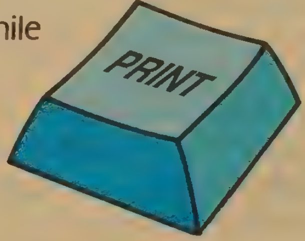

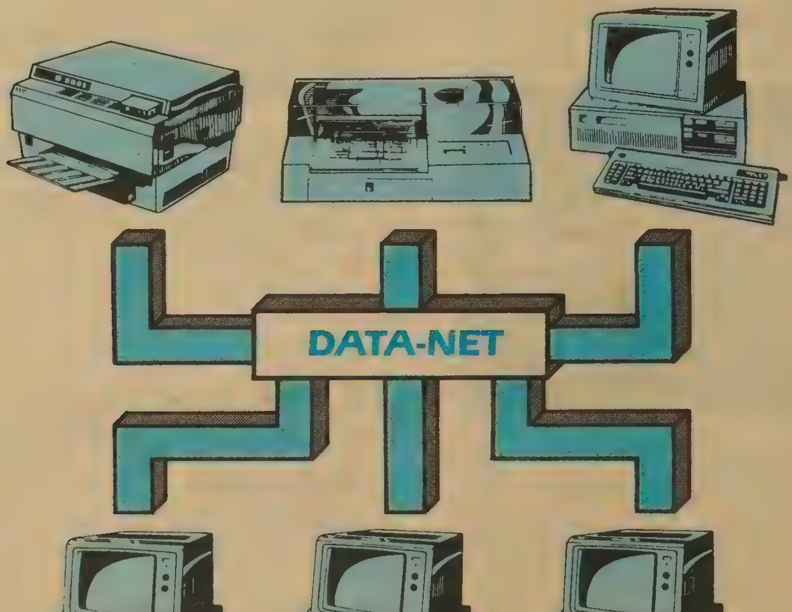

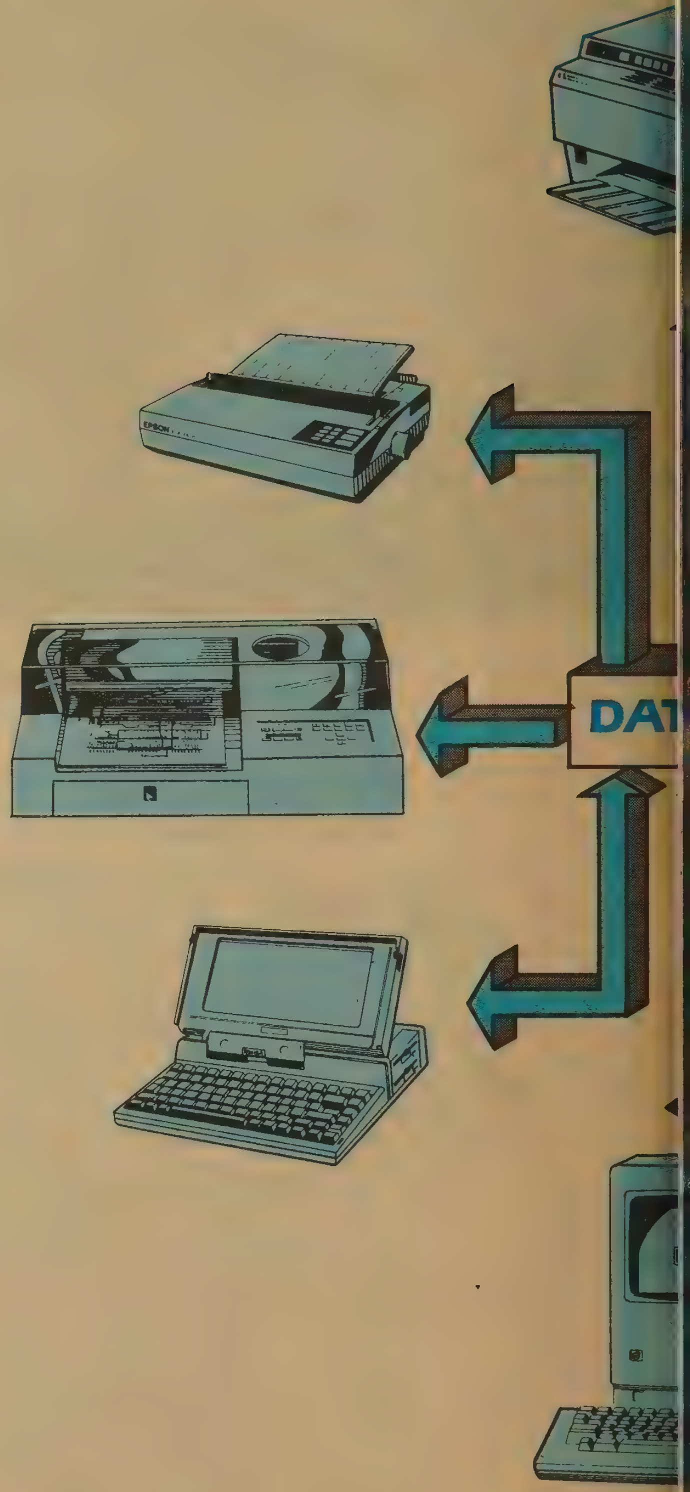

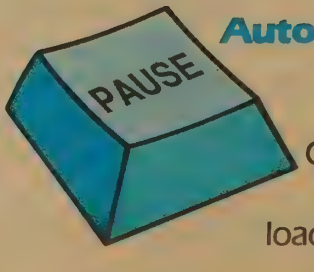

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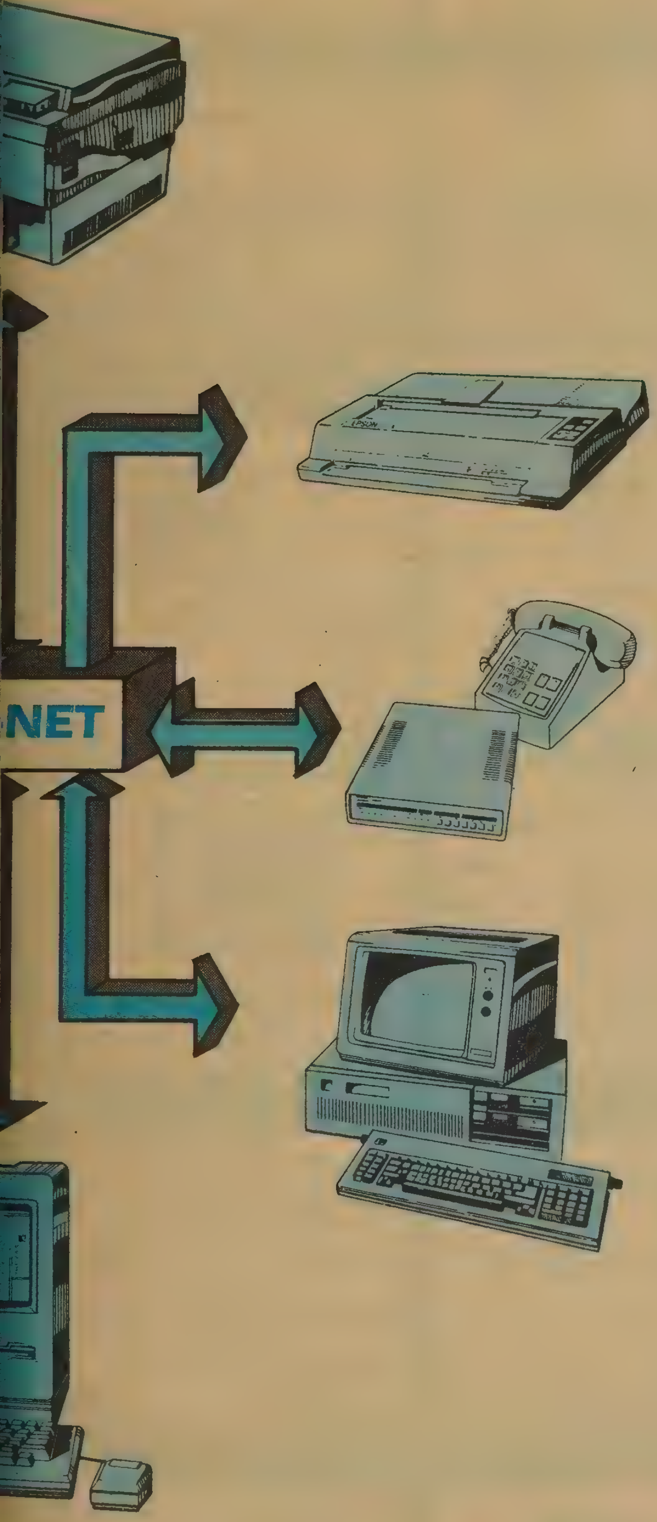

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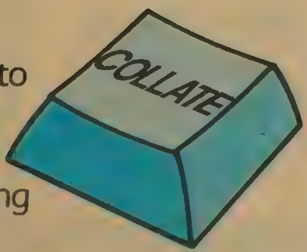

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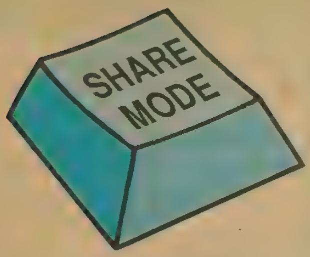

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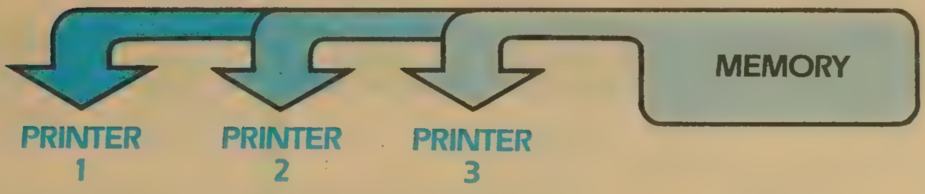

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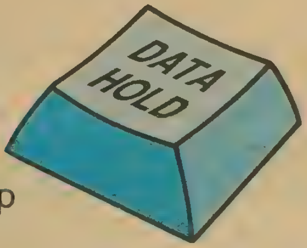

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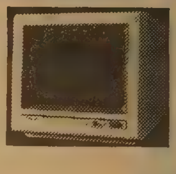

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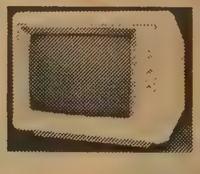

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Gold Hill Signs Japanese Agreement

CAMBRIDGE, MA (NB)—Gold Hill Computers has signed an agreement with Computer Engineering & Consulting, a leading Japanese software house, to support Gold Hill's line of artificial intelligence software for PCs in Japan. Gold Hill says the deal is worth $12 million over five years. "There is a large potential market for AI development and delivery tools in Japan," said Celia World, Gold Hill's international marketing director.

New Dow Jones Stock Wire

NEW YORK (NB)—Dow Jones & Co. has launched a new computerized stock wire for active investors. The Dow Jones Professional Investor Report sends an alert via VDT or printer whenever an unusual price or volume moves on the New York Stock Exchange, the American Stock Exchange, or the National Market System. Reporters will then give subscribers further information about the alerts.

Borland Unveils Turbo Pascal 4.0

WASHINGTON (NB)—Borland International President Phillipe Kahn personally unveiled *Turbo Pascal 4.0* at the general meeting of the Capital PC User Group. The meeting came during the first annual Capital Microcomputer Users Forum, the first micros-only trade show in Washington.

The new Borland product breaks the 64K barrier of prior *Turbo Pascal* offerings, allowing programs up to the memory limit of DOS. The new package is also a speed demon, compiling at 27,000 lines per minute on an 8 MHz AT. (And the old *Turbo Pascal* was no slouch, to begin with.) The new Pascal supports .OBJ files, separate compilation via units, and smart linking, which should allow programmers to make the switch to the new OS/2 operating system with little difficulty.

"*Turbo Pascal 4.0* is a language that programmers can start with and stay with for complex applications development," Kahn said. 4.0 will retain the familiar $99.95 price of current versions, and Borland will continue to offer version 3.0 at $69.95. Registered users can upgrade to 4.0 for $39.95 plus shipping and handling until November 30. Also, Borland will make the entire Developer's Library available to registered users for $150 until November 30. The regular retail price for the Developers Library would be $650.

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dBASE Enhancements Debut

WASHINGTON (NB)—Two new *dBASE* add-ons saw the light of day at the Capital Microcomputer Users Forum. Fox & Geller unveiled their new *QuickEntry,* an easy data entry front end for *dBASE.* And Database Applications Inc. showed its *dNPL/Reporter,* a report writer to replace the atrocious *dBASE* report generator. The new products came at a very successful show featuring a morning tutorial, devoted to *dBASE* applications, which jammed the Sheraton Washington lecture hall. On hand to demonstrate the tricks of the trade to the *dBASE* devotees were such mavens as Tom ("Come Home, Lassie") Rettig, Randy Wallin, Dave Browning, and Pete ("Dr. *dBASE*") Olympia.

QuickEntry allows a user to create and enter data into *dBASE* compatible databases. It has form-drawing features, does automatic documentation of the form, and offers a much wider selection of field types than *dBASE,* including types such as two-character state postal code abbreviations and lowercase to upper case conversion. It works with *dBASE III* and *III Plus, Clipper, FoxBase+, Quicksilver,* and DBXL. No price yet.

dNPL/Reporter allows reporting writing with "English-like" sentences. It allows opening as many as 36 files and dynamically joining 16 database files. It also has laser printer drivers. According to Database Applications, the product uses a fourth generation language to create a non-programmers language with single commands for performing complex operations upon multiple databases. The product sells for $89.50.

CONTACT: QuickEntry, Fox & Geller, 604 Market St., Elmwood Park, NJ 07407, 201-794-8883.

dNPL/Reporter, Database Applications Inc., 400 Wall Street, Princeton NJ, 08540, 609-924-2900.

Codec Patent

STAMFORD, CT(NB)—Just when you figured out what a modem is, along comes the codec.

The U.S. Patent Office has notified Concept Communications that it will issue a patent for the Image 30 video codec. The device is a PC board that transforms the computer into a full-motion, full-color teleconferencing workstation. Image 30 uses a combination of Boolean and statistical techniques to compress video signals. That means less computing power is necessary to send and receive the signals. As a result, the Image 30 sells for $12,000, far less than any other video conferencing technology, according to Concept Communications. With a video camera and a high-resolution monitor, Image 30 enables a PC to send and receive full-motion, full-color video over telephone lines or satellite transmission networks. The product is compatible with both American

and European standards.
CONTACT: Concept Communications, 45 Church Street, Stamford CT, 06906, 203-357-0522.

PICA Ponders FCC Proposal

WASHINGTON (NB)—The Federal Communications Commission "has lawyer's disease," communications lawyer Stephen Bell told the Public Interest Computer Association. "They are trying to apply yesterday's solutions to today's problems. Applying voice concepts to computer concepts is not going to work." Bell, who represents Tymnet, was one of three panelists addressing the members of the Washington organization that offers computer consulting and services to the city's large non-profit community. The FCC proposal to impose access fees on use of data transmission networks could have a major impact on the non-profit organizations.

Apple Computer, one of the sponsors of the PICA meeting, issued a statement opposing the FCC proposal. Noting that Apple has donated computer systems to over a thousand non-profit groups over the years, Apple's Fred Silverman said, "We object to any action that would impede nonprofit organizations' ability to take advantage of telecommunications. Any additional costs required to use on-line services would constitute such a burden, especially in the face of cutbacks in government funding to many nonprofit groups."

National Systems Management Inc. estimates that adding $4 per hour to telephone bills, which the FCC proposal would do, could have a devastating effect on use of SpecialNet, a communication network for teachers and educators. NSMI operates SpecialNet for the teachers, who access it via Telenet. NSMI says the charges would cause "a substantial drop off in SpecialNet subscribers, particularly in the field of special education" and "a decrease in the ability of these individuals to access unique and useful information that has a direct bearing on the effect operation of educational programs." SpecialNet has over 3,500 subscribers.

New Chief At The Source

McLEAN, VA(NB)—The Source has a new chief executive officer, Michael Sears, put in place by the new management from Welsh, Carson, Anderson & Stowe, which bought the information network this year. Source president Jay Keller now reports to Sears. Welsh, Carson has also installed company head Andrew Paul as chairman of the board at The Source.

NEWSBYTES JAPAN

By Masayuki Miyazawa and Keizo Yamamoto

IBM And Fujitsu Settle Copyright Dispute

TOKYO (NB)—The American Arbitration Association, a private negotiating firm, announced an end to the four-year dispute between IBM and Fujitsu over alleged software copyright infringement by Fujitsu. The arbitrators say they did not find any improper conduct by Fujitsu. The arbitration permits Fujitsu to access IBM's programming information with a strictly controlled procedure and appropriate fees in the next five to ten years. Meanwhile, IBM receives an undisclosed sum of money from Fujitsu for the past use of its programming information based on their 1983 agreement. The final settlement will come when the AAA decides the figure of the payment later.

The dispute started when IBM had claimed Fujitsu had violated its 1983 agreement on accessing IBM's software. According to the arbitrators, the original 1983 agreement had a serious flaw. "It did not clearly define what sort of IBM programming information was available to Fujitsu and what amount of compensation had to be paid to IBM," said Robert Mnookin, one of the arbitrators. "As a result, a huge gap has grown separating their understanding of the agreement."

Both firms have expressed satisfaction with the arbitration. It gives us the impression that a ray of sunshine has started to peek into the tense Japan-U.S. relations.

IBM/Matsushita TRON Deal

TOKYO (NB)—Industry sources say IBM Japan and Matsushita Electronics have agreed to jointly develop a 32-bit business-oriented personal computer based on the TRON architecture. The report has arrived just after IBM Japan had joined the TRON Association, which aims to make TRON a standard architecture for personal computers. With the agreement, Matsushita is expected to manufacture the TRON PC for IBM Japan. Moreover, both firms will cooperate to develop software for the TRON PC, the sources say. IBM Japan and Matsushita already have business ties—Matsushita has been manufacturing the Japanese personal computers the 5550 line and the PS/55 line for IBM Japan.
CONTACT: Matsushita Electronics, 1006 Oaza-Kadoma, Kadoma-shi, Osaka-fu 571, Japan

Cray/C. Itoh Agreement

TOKYO (NB)—The American supercomputer firm Cray Research has signed a business agreement with Century Research Center of the C.Itoh group.

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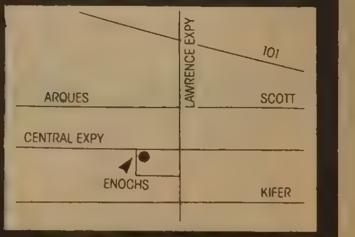

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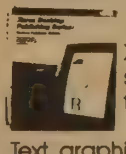

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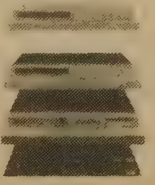

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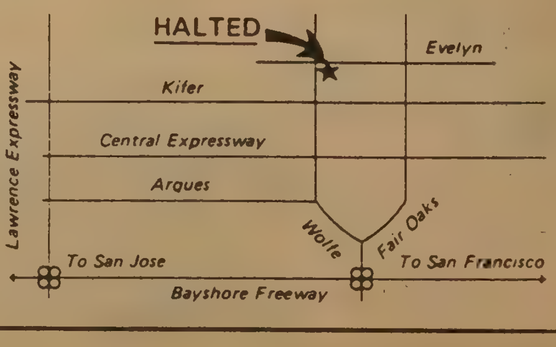
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With this agreement, CRC will help promote sales of Cray's supercomputers in Japan. CRC will also develop customized Japanese software for Cray's supercomputers. With this help, Cray is expected to boost Cray's sales in Japan in the future.

American AI Language For TRON

TOKYO (NB)—With the help of Production Systems Technologies (U.S.A.), the Tokyo-based software house Personal Media has started to rewrite the artificial intelligence programming language OPS83 for the 32-bit standard operating system TRON. OP55, an original version of OPS83, was developed by engineers at Carnegie Mellon University. Personal Media has currently been selling an MS-DOS version of OPS83 in Japan.

CONTACT: Personal Media, c/o Special Product Division, Gotanda-NN Bldg., 2-12-19 Nishi-Gotanda, Shinagawa-ku, Tokyo 141

Multitasking MS-DOS

TOKYO (NB)—A multitasking driver for Toshiba's laptop computer the J3100 (or T3100) has been developed by Sord OA Systems. With J-TASK, two programs will run simultaneously under MS-DOS 3.1. It costs 30,000 yen or $210 and is intended to engineers. "Handling the program requires a technical knowledge," explains a Sord spokesman.

CONTACT: Sord OA Systems, No.2-Seiko Bldg., 4-2-11 Kudan-kita, Chiyoda-ku, Tokyo 102

Four-Megabyte 3.5" Disk

TOKYO (NB)—Toshiba has started to license its latest disk drive diskette technology to companies in and outside Japan—a 4-megabyte 3.5-inch disk drive and diskette. Major companies have already started to develop their own products based on the technology, including Sony, Fuji Photo Film, Hitachi-Maxell, 3M, TEAC, and Matsushita.

CONTACT: Toshiba, 1-1-1 Shibaura, Minato-ku, Tokyo 105

TRON Symposium Slated

TOKYO (NB)—The TRON Association will hold its international symposium on the future 32-bit standard operating system TRON in Tokyo on November 13. Major Japanese makers are expected to introduce prototype TRON personal computers at the symposium. The Association accepts 600 participants. The fee is 30,000 yen or $210 for non-members.

CONTACT: The TRON Association, Kikaishinko-kaikan, 3-5-8 Shibakoen, Minato-ku, Tokyo 105

MSX Standard Scrapped

TOKYO (NB)—The Tokyo branches of Microsoft and ASCII have thrown out the MSX standard and have begun to push another standard for personal computers. This time it's an IBM PC/AT-compatible standard with a Japanese language feature called AX. The two firms formally set up a preliminary committee for AX on September 10.

The AX computer uses the Basic I/O System of Phoenix Corp. (U.S.A.), an 80286 or 80386 chip, and Kanji software of Softbank Corp. (Tokyo). Surprisingly enough, Sanyo already announced its AX-based Japanese PC/AT compatible computer the MBC-17J on September 10. It costs US$2,465. A total of 14 companies have expressed interest in this standard, but there are only three major computer names involved—Sanyo, Sharp, and Mitsubishi. (Interestingly enough, Sharp did not attend the press conference.) The rest of the participants are mostly peripheral equipment makers and marketing firms. Apparently, many other computer makers do not want to take the risk again—once bitten twice shy.

Japanese OS/2 Due Early 1988

TOKYO (NB)—The Tokyo branch of Microsoft announced that it will start marketing a Japanese version of OS/2 in the first half of 1988. It will run on the IBM PS/55 family, the Japanese versions of the PS/2 line.

32-Bit NEC PC98

TOKYO (NB)—As was rumored last week, NEC released its 32-bit personal computer, the PC98XL DOUBLE, on September 8. The machine has an 80386 chip, two 5-inch 1MB FDDs, and a 40MB HDD. It supports MS-DOS 3.1, Japanese OS/2, and NEC's Unix PC-UX/V. PC-UX/V provides a multi-user feature, allowing four users to operate the machine simultaneously. The PC98XL DOUBLE is compatible with the PC-9801 family, which is a V30-based best-seller 16-bit personal computer in Japan. But its price, US$6,958, is still expensive for personal users.

CONTACT: NEC, 1-4-28 Mita, Minato-ku, Tokyo 108

Fujitsu's 32-Bit PCs

TOKYO (NB)—Fujitsu announced an 80386-based 32-bit personal computer the FMR70HD this past week. Fujitsu is preparing to release Japanese OS/2 and *Windows* for the computer. The company

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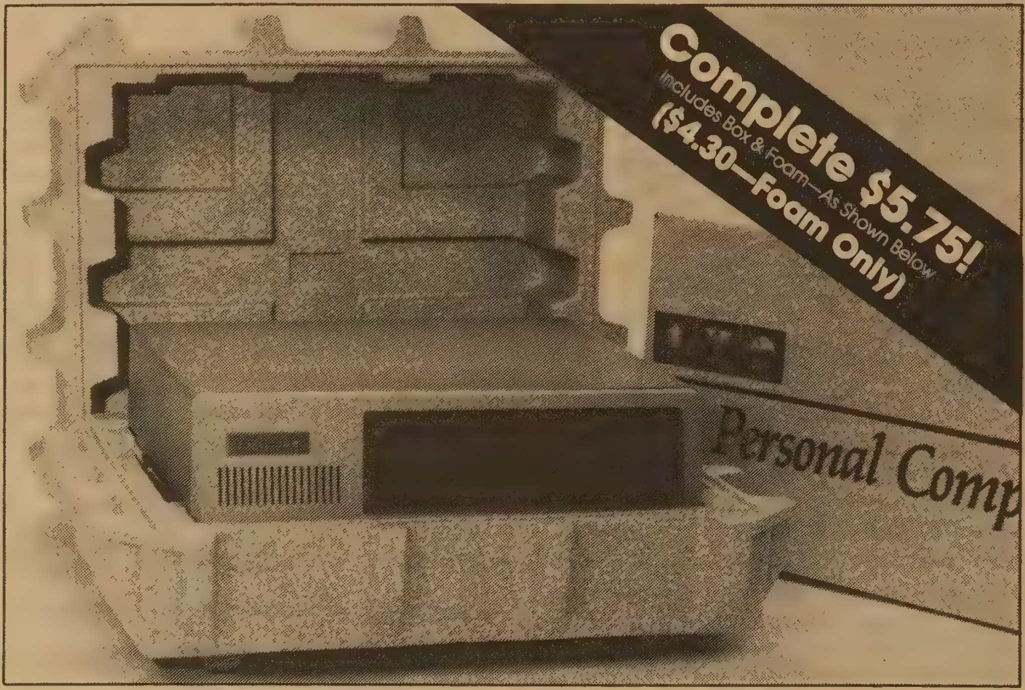

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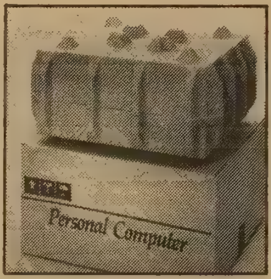

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has also announced a much talked-about laptop computer, the FMR30BX, which is an upright box shape. That's almost identical to the company's best-seller portable Japanese word processor, the OASYS30AF. The laptop has a 640 × 400-dot LCD, a 512K memory, and two 3.5-inch FDDs. It weighs 6.5kg, and costs US$1,887.
CONTACT: Fujitsu, 1-6-1 Marunouchi, Chiyoda-ku, Tokyo 100

256K DRAM Deal For IBM

TOKYO (NB)—NMB Semiconductor, a subsidiary of Minebear Corp. in Nagano, Japan, has signed a business agreement with IBM (U.S.A.) to provide 256K dynamic RAMs. NMB's high-speed and low-energy consumption chip will be used for IBM's 32-bit PC. To start, NMB will supply 2.3 million sets of the chip to IBM by the end of the year. NMB has similar chip supply contracts with other major American firms, such as Compaq and Data General.
CONTACT: NMB Semiconductor, 1580 Yamamoto, Tateyama-shi, Chiba-ken 294, Japan

Toshiba Machine Admits Violation

TOKYO (NB)—Toshiba Machine's president Akira Iwahashi has admitted illegal sales of high tech tools to the Soviet Union. According to the indictment, Toshiba Machine shipped the first milling tool as early as in December 1982.

Meanwhile, U.S. Navy's *Guide To The Soviet Navy* reports low-noise Soviet submarines were already being built and stationed in 1981. So, apparently there's a time lag. In fact, there's no evidence that Toshiba Machine's milling tools have contributed to reduce the noise radically. Moreover, a report says the screw noise could be as minor as the automobile's tire noise, since submarines have much noisier parts like engines and pumps. "Without proof, the U.S. Congress is trying to go as far as to bash the parent company Toshiba Corp.," argues an analyst. Nevertheless, it is evident that Toshiba Machine has violated the COCOM agreement.

Meanwhile, the parent company Toshiba Corp. announced (9/9) an unprecedented strict COCOM-rule compliance program which applies to the whole Toshiba Group. It has a double-check system to check indirect transfer of goods to the Communist bloc via third parties, under which the violators of the program are fired.

In the wake of its subsidiary's COCOM-rule violation, Toshiba's export volume to the U.S. in fiscal 1987 is expected to drop by $211 million.

DEC Sponsors COCOM Seminar

TOKYO (NB)—The Japan-U.S. political relationship seems to be tense, but company-to-company relations seem to be quite warm. Japan Digital Equipment Corp., a Tokyo subsidiary of an American firm, has decided to hold a seminar on how to comply with the COCOM rules. The seminar, which was requested by Japanese firms, covers how to make a corporate export compliance program, how to execute it, and how to check it. It will be held in Tokyo and Osaka on October 27 through 30. Digital Equipment Corp. has been quite successful in the field of export control. So, the seminar will help Japanese firms to stop a recurrence of COCOM-rule violations in the future.
CONTACT: Japan Digital Equipment Corp., Sunshine-60 35F, 3-1-1 Higashi-Ikebukuro, Toshima-ku, Tokyo 170

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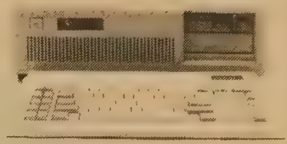

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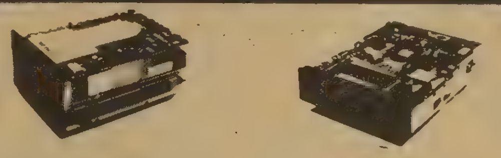

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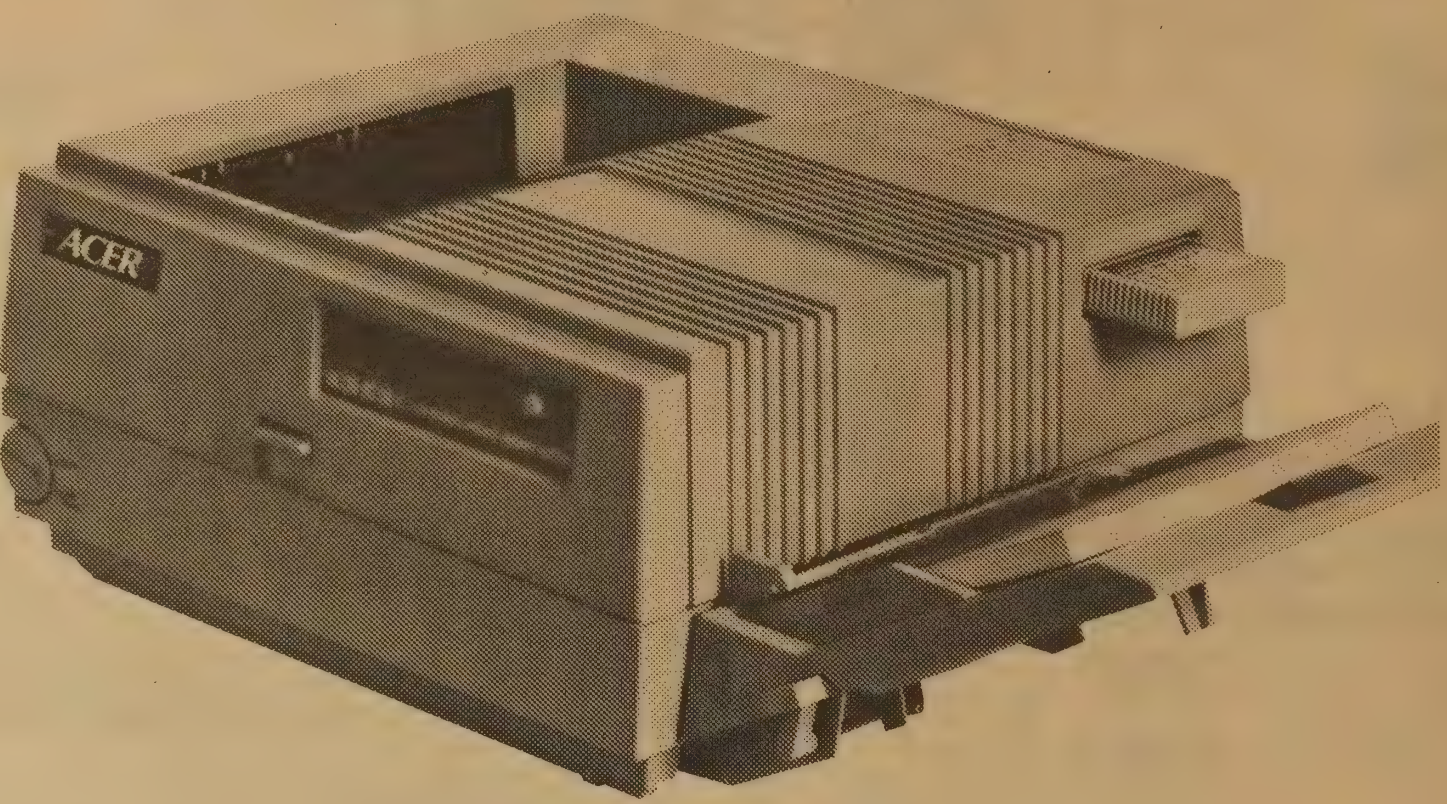

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New Worlds For Borland

PHOTO: KEN JAMES/PAT JOHNSON STUDIOS

Paradox & Philosophy With Philippe Kahn

By Dennis Erokan and Mary Eisenhart

In the personal computer community, where independence and eccentricity are practically *de rigueur*, Philippe Kahn has established himself as a larger-than-life character—a successful entrepreneur flying in the face of tradition, a thrower of legendary parties, a serious musician, an outspoken industry critic and practitioner of crudespeak.

His opinions are fortified by an impressive track record. A mathematics professor in his native France, he moved to California to seek his fortune in high-tech. Finding himself a Silicon Valley unemployable for lack of a green card, he founded Borland International in 1983 in hopes of selling a few copies of his Pascal implementation, *Turbo Pascal*, to programmers and hobbyists. He also evinced some distinctly iconoclastic attitudes for the time, notably the notion that copy protection was both an unconscionable inconvenience to the user and an unnecessary complication for vendors who sold their software at a fair price to begin with. Events proved the accuracy of his opinions—*Turbo Pascal* flew out the door, followed by other Turbo programming languages and other low-cost, high-quality tools like the perennial bestseller *SideKick*.

It's the morning of September 17. At Techmart in Santa Clara, Borland is hosting a press conference with Ansa Software, purveyors of the successful—and expensive—database manager *Paradox*. They're announcing an acquisition deal under which Ansa becomes a wholly-owned subsidiary of Borland. This venture, described by Kahn as the biggest such deal in the micro software industry's history, is a strategic alliance which will enable Borland to challenge the Big Three (Lotus, Microsoft, and Ashton-Tate) on their own turf, the mainstream business world.

Sitting on the right is the soberly gray-suited Ron Posner, late of Ashton-Tate, president and CEO of Ansa, now assuming the position of executive vp/sales at Borland. He's accompanied by Ansa co-founders Richard Schwartz and Robert Shostak, similarly buttoned-down and decorous. They embark upon a careful presentation of the strategy with which they hope to entrench *Paradox* in the corporations of America.

On the left side of the table, periodically interrupting them with editorial asides and ebullient explanations of technical fine points, is Kahn, resplendent in an eye-popping blue jacket and red tie.

When the last point's been made, the last transparency removed and the projector turned off, the ultra-serious Posner delivers a closing oration, sketching a glorious future in which Borland, rising from its humble origins, takes its true place in the real (i.e. corporate) world.

Kahn looks at Posner. He looks at the assembled journalists. His face lights up with an evil grin. "Of course," he announces, "it doesn't mean we're going to become a bunch of corporate a**holes."

These are interesting times at Borland. There's little doubt that the Ansa acquisition will effect significant change within the company.

Founded in 1984 by SRI veterans Richard Schwartz and Robert Shostak, Ansa challenged the database giants with *Paradox*, a relational database management system that combines power with unprecedented ease of use (see "The Joy Of *Paradox*," this issue). Its marketing efforts took the form of a sophisticated outside sales force aimed at the corporate marketplace. By acquiring Ansa, Borland plans to utilize this effective channel to introduce current and future applications to a world quite different from its original markets.

> **"On the one hand you have a universe that sells over half a million PCs and compatibles a month. On the other side—in August I think there were only 35,000 Macs sold. So no matter how you look at it, it's a matter of economy of scale, and also the potential size of the market."**

At the press conference, Ansa founders Schwartz and Shostak announced sweeping (and potentially devastating to the comptetion) plans to broaden *Paradox*'s appeal by offering a version for 80386-based machines which actually utilizes the superior processing capabilities of the 386 chip—a product Borland expects to begin shipping almost immediately. Under development are versions to run under Microsoft *Windows*, OS/2's Presentation Manager, and UNIX.

The distinguishing feature of these versions is that, to the user, they will be indistinguishable—*Paradox* sites will lose no time to retraining, because the software's front end will appear exactly the same in each version. By the same token, a LAN could have UNIX, DOS, 386, *Windows* and OS/2 versions running at different nodes, all working on the same files contained in a central server.

Additionally, pointing out that all the programmers who write *dBASE*, *R:BASE* or *PAL* are a very small group compared to those who write, say, Pascal or C, Shostak revealed that *Paradox* will also be accessible using *Turbo Pascal*, *Turbo C*, and Borland's other programming languages.

Waiting in the wings, meanwhile, with no firm ship date announced, is *Quattro*, a spreadsheet package that's been under development at Borland for three years. According to Kahn, it combines the functionality of two $495 Lotus packages (*1-2-3* and *Freelance*) and will sell for $195. In addition, he points out numerous advantages—better graphics, automatic self-configuration to your hardware, "soft" user interfaces that let the user create a personalized look-and-feel, smart recalculations that improve performance by recalculating only those cells actually affected by changes, and blinding speed, because the entire program's written in assembly language.

Quattro's pricing and features are the result of considerable thought; says Kahn: "A little better is not good enough. Priced better, for a real tool, is not good enough. You have to have a combination of incredible advantages from a product standpoint, a performance standpoint, and a price standpoint. That's what *Quattro* has, that's what we're so excited about."

There's little doubt that profound changes are ahead for Borland as it begins its foray into the corporate environment. Despite its growth, it's been essentially a one-man company, with Kahn indisputably in charge. Its new strategies call for more complex structures, different styles, new approaches.

We visited Kahn on the eve of the press conference, at his new house in the Santa Cruz mountains. Not unlike Borland itself, the setting seemed poised on the brink of an unknown but promising future—new vistas, open spaces, and projects under construction. Always outspoken, often controversial, Kahn discussed matters from the pragmatic to the philosophical, looking to the challenging months ahead.

The Ansa deal is Borland's first major acquisition—how did it come about?

We did it here at the house on the weekend of the Fourth of July. Something like that would've taken months, but I think we all decided that if we wanted to do it it would have to happen fast.

The way everything happened was very different. First thing we did was, I was looking at the product. I was very impressed. Once I realized it was a truly superior product I told one of the directors, who happened to have an office in the same building as Ansa—it's a pretty funny story, because he would always tell us, their stock is piling up, they're working late these days—that's been going on for a year. That's the way to buy a company, you know, rent an office in the same building they have, observe them... [laughs].

So anyway, we went to see them, and I think the idea intrigued these guys. The first thing we did was meet with Rob Shostak and Richard Schwartz, who are the two vice presidents of engineering at Ansa, and the guys who started the product. I made sure that there was a match, and that people felt good about it.

So when we were sure that the R&D base, the product base was okay, that everybody was happy, that we'd have new versions of the product and things like that, then we said okay, let's see if we can put something together that makes sense for everybody.

What were the parts that fit?

The first part—the product was great. The second part—there was a lot of complementarity in the organizations. Ansa was very strong from a direct corporate sales force standpoint. The outside sales force of Ansa is probably the most polished in the industry. And we didn't have an outside sales force—our sales force was essentially working from inside the company and calling out—telemarketing and the retailers. We didn't have six regional offices with five people in each like they have.

Immediately we said, wow, we know we're coming out with new products, *Quattro* and so on, we know those products are really going to compete head-to-head with products such as *Lotus 1-2-3*—which have those outside sales forces. That's a tremendous opportunity beyond the *Paradox* opportunity. So that was a good match.

And there were some very good people, like Ron Posner and so on, and we got along real well. It was surprising to see that, although there could have been a culture clash, it wasn't the case. It was not a problem.

It just started to make sense, and as everything made sense we made a deal very fast.

Is Paradox going to stay the way it is, or are you going to be tinkering with it?

We already have a lot of synergy between our R&D groups. I think where *Paradox* will be tomorrow wouldn't have been so without this merger. In a reciprocal manner, people like Richard Schwartz and Rob Shostak contribute and will contribute to a lot of products beyond *Paradox*.

Do you have plans to move these products for the IBM corporate environment into the Macintosh environment?

We're working on Macintosh software, but right now it's a little independent. I think you have to look at our Macintosh effort as an independent business unit. Of course there's some synergy between the Macintosh and PC products, but it's not really related to *Paradox* or anything else. You have to look at Macintosh as a different world.

It's been said that companies like Microsoft derive half their revenue from Macintosh applications. Is that your company's experience?

I don't think 50% of Microsoft's revenue comes from Macintosh software. I don't know the exact number, but I think they have about 10% of their revenue coming from their total Macintosh effort—I think their Macintosh products were about $40 million last year.

Essentially our revenues coming from Macintosh software are about 10% of our revenue. Maybe it's a little less than Microsoft, but then they started before us.

Do you see Macintosh as a significant growth area?

We see Macintosh for itself as a significant growth area, because we're *there*, and one of the few that are there. I've seen recently a trend for people to say that they have a hard time making money on the Macintosh.

The problem is that on the one hand you have a universe that sells over half a million PCs and compatibles a month. On the other side—in August I think there were only 35,000 Macs sold. So no matter how you look at it, it's a matter of economy of scale, and also the potential size of the market. I think the few people who will be there will make money. But you can't blame people—you can buy a PC compatible for much less money than you can buy a Macintosh.

Do you see PS/2 and OS/2 changing things?

Well, I think you have to separate the two, and demystify things a little bit. PS/2—people say it's the first of a new generation; I say it's the last of the old generation. Okay, there's a different bus, but it's a very well-engineered PC compatible. It's the best-engineered IBM PC compatible machine, cloned by IBM. IBM was the first clone-maker to really improve the PC. But if you run benchmarks, the PS/2 Model 80 against the Compaq 386, it's a big issue. You talk raw power, and forget about all the hype...

This industry has been real good, and maybe Apple started it, in creating hype marketing—I always say the closest thing to reality in *HyperCard* is that part of the name *HyperCard* is Hype. It's a good product, but is it worth all this hype?

PS/2 I think is the same thing. It's a nice piece of hardware, it's very useful, the new graphics adapter is much nicer, but it doesn't have much revolutionary. I wish the PS/2 would've had a graphics processor on board. Then maybe we could've done something significant with it. But it doesn't. It's an okay machine—its keyboard's like an aircraft carrier, it's a good machine.

"I think MS-DOS will hang in there, for corporations as well as for anybody else, for a long time. There are a lot of applications, its performance is okay. It's not the friendliest thing in the world, but people learn how to use it."

That's a very different issue from OS/2. I really think OS/2 is the new operating system that is very close to UNIX in concept, performance and all that. It's clearly potentially a corporate solution. It is not clearly potentially a personal computer solution. It's a large operating system that provides facilities found in minicomputer-type operating systems, and if anyone had wanted that kind of operating system until now they would've switched to UNIX.

Will it have a better interface than UNIX?

The first version, obviously not, because it's a character-based operating system. The second version, with the Presentation Manager, will be pretty close to what you can find on UNIX machines such as Suns and Apollos, with graphics window management programs.

It's an interesting operating system, and it's something that Borland is supporting. We are in the business of building better tools for our customers. We'll be on OS/2 before anybody else. I was asked just yesterday, well, when will you release your compilers under OS/2, when will you release *Paradox* under OS/2—and I said hey, ask first, when will OS/2 ship? And we'll probably be there that day. Our bottleneck right now is, when will they ship? It's a very complex piece of software that will require a lot of testing, and

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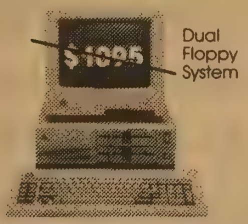

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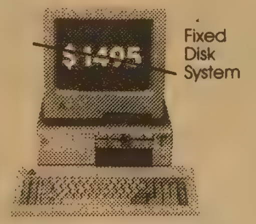

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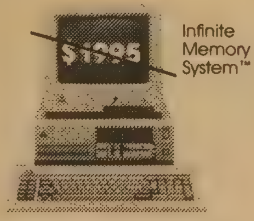

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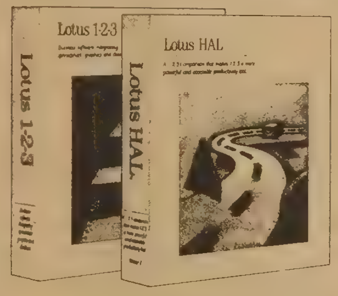

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It's also going to be much more costly to an end user, because OS/2 is going to cost $325, versus $60 today. So it's a different universe you're opening up here.

Is MS-DOS going to hang in there for years as an important tool for the non-corporate user?

I think MS-DOS will hang in there, for corporations as well as for anybody else, for a long time. There are a lot of applications, its performance is okay. It's not the friendliest thing in the world, but people learn how to use it. If you learn DOS, you need about six commands. If you give it to kids, seven or eight years old, they're just using it, they don't care. I mean, it's six commands, dammit. It's like learning six chords on the guitar—if you can't learn six chords, you're never really going to play, so you better learn those six chords.

The whole issue is that there's lots of software, proven software, high performance software; there's a bigger choice of software, the prices are reasonable, you can get your work done. Because ultimately a PC is something that helps people get their work done. It's not some fashion item that you have to change every year because the colors are not in. Some people need the status symbol, but I don't think most of the people need that status symbol.

There are three gigantic software companies trying to dominate the market. You came out of nowhere with a strategy of not having hits, of having products that would continue to sell well for a long time. Keeping a low profile. Now that your company's so big, do you see the Big Three as a roadblock to what you're trying to do—and is your company still manageable?

I think we're manageable. . .[laughs]

We're growing a lot. I think this year if you consider that there's four biggest software companies, I think we're in. We're into five, and I don't know whether WordPerfect is bigger than us this year or not. Between what Borland and Ansa are going to do, people are talking between 60 and 80 million dollars.

We're not as big, by far, as Lotus or Ashton-Tate or Microsoft. We're much smaller. There's something that's clear when you're smaller—you've got to be better, because otherwise nobody's going to buy your stuff, they're going to buy the bigger guy's stuff. That's what we've tried to do and what we're still trying to do—build better software. We've grown through the quality of the software, not necessarily through the corporate image projected in the *Wall Street Journal*.

The point is that we have proven that it's possible to release new products, and to have a whole stable of products that do well, sell well, and things like that, which a lot of people hadn't done. We have a language business, we have applications, there's *Quattro* coming out, there's a lot coming out. We started the work on *Quattro* close to three years ago, that's in the real infancy of the company, when *SideKick* got out. It took some real insight at that point to decide to fund the development of the next generation spreadsheet—which we did.

How will we fare compared to the biggest companies? I think that's not an issue. We're not trying to take market share from those biggest companies. We're not trying to say, we're the biggest, we're the strongest. We're just trying to produce products that the customers need. We believe that if we do so, develop better solutions, there's always going to be a market for our products.

Rather than try to take so much percent market share from Lotus, whatever—we can compete head to head with the biggest. We compete head to head with Microsoft—the language business has been pretty crazy, advertising wars going on and all that—which is fine. It gets everybody excited. I don't think it means that the pie of the market is this size and we split it more or less equally—I think it means we extend the pie, because you know, there's always this thing that if there's only one person in the market, there's not much excitement. But if there's two people competing, and talking about it, and getting excited and all that, then the market suddenly expands, and people say, oh, that looks interesting, there's wars, you know. That's very important.

How significant is the university market for your language business?

Very significant. Obviously universities and schools are prime buyers of languages.

That being so, do you have any plans to get into the UNIX market?

The UNIX market in universities is only a part of the market. The market is the people who have a VAX or an HP 3000 or something like that, with several terminals on it. But it seems that the trend now is for universities to advise their students to have personal computers, whether they're PCs or Macs.

So we're going to a certain extent into the UNIX market, but it's not our major focus right now.

How do you spend your time during the course of the day? Marketing plans, working with the engineering department, outside of the company altogether?

Usually I wake up and I go for a run. I'm back by 7:30 or so, and the first thing I do is go on MCI Mail, on our electronic mail system. The whole company's on electronic mail. I get over a hundred messages a day that I read and answer—mostly from our internal mail system, some outside. That's really important, the communications of the company, because that allows us to communicate with Europe, with Japan, with everything, because we're present everywhere. We have all this information flowing, and we have everybody online. That's really important in the way the company works.

Then once that's done, I'm on a computer so I usually play with software or something. I spend quite a bit of time with the people in development. I think the most time that I spend is on products and marketing. There's different meetings, different potentials, different things. Designing new strategies, designing new products. Usually I have lunch with people in the company, and. . .

Oh yes, I did take a shower. Otherwise we'd have people quit. . .

It's very much marketing, R&D. We're starting a magazine, also. *TurboTechniques*, the language magazine. I got pretty involved with that—it's something I'd never done. It's controlled circulation, registered language users. It's a how-to kind of thing; it only deals with how to get things done with Borland languages. There's three articles in each issue on *Turbo Pascal*, *Turbo C*, *TurboProlog*, *TurboBASIC*, PAL, the Paradox Application Language, and so on—beginning, intermediate and advanced, so people can find what they want. There's cross-references between languages, and there's general purposes and so on. The idea is to provide a lot of information and to support our users. But it was an interesting project, to build a magazine, because it was a real different universe. We even got Microsoft advertising in it, which is kind of funny.

I've learned that as the company grows I cannot get involved in everything. It's a very difficult process, to just let go. To just say, hey, I have some smart people here, let them make these decisions. Because if I want to get involved in this and always argue with them, then we're just going to have a bunch of mushrooms. It's real difficult.

It turns out that every time I leave the sales increase. [laughs] I mean, if I leave for Europe the ads get better, the bugs get fixed in products—it seems the more I stay away the better off the company is.

Even before the Ansa deal, you were addressing radically different areas at the same time—Macintosh users, programmers. . . Did you find that this caused a certain lack of focus that might be aggravated by adding Ansa as a new element, or does it all get integrated in one cosmic plan?

There's a cosmic plan. The cosmic plan is to have a language business. Languages are where our company started, and that's really important. The language business you can see on the PC and also on the Macintosh.

> **"We're not as big, by far, as Lotus or Ashton-Tate or Microsoft. We're much smaller. When you're smaller, you've got to be better, because otherwise nobody's going to buy your stuff, they're going to buy the bigger guy's stuff."**

Are languages forever? When you come up with a good language, do you pretty much have that franchise?

You don't have a franchise. As long as you produce the best implementation of that language on the market, you'll sell. But you have to keep updating, getting better, all that stuff—no question about it.

That's one of the difficult things about this business, and why you see a lot of people bailing out. Very few people have the persistence to *stay* in this business. Mitch [Kapor, of Lotus] left, a lot of people—it's a real tough business on you. It's not much unlike the music business, where you can be a hit for a year, two years, three years, four years, but how are you going to keep up with it as a person? The company might, but it's a real tough business, because you always have to improve and make sure it's there and so on.

Do you think your personality's on the line, or you yourself are on the line, as an owner-operator?

Yeah. Sure.

So you think there's more pressure on an owner-operator than on some guy who works his way up to CEO and runs it for a few years?

Sure. There was much more pressure, say, on Mitch Kapor than there is on Jim Manzi. No one knows who Jim Manzi is, and no one really should—he's an MBA, a professional manager managing an existing company. Mitch was something else—

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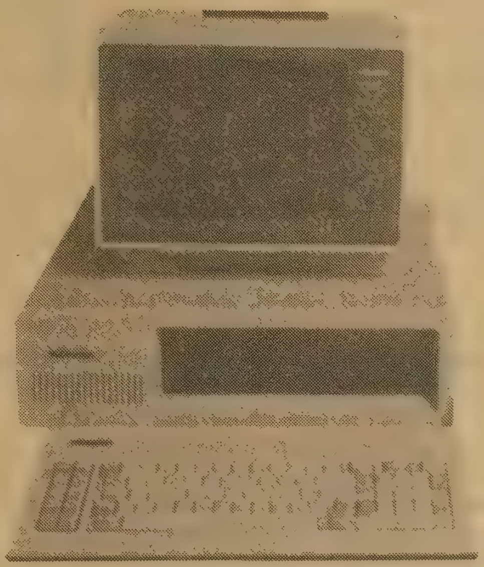

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there was personal pride and personal investment in Mitch building the product, participating and all of that, and for him it was a tremendous pressure. All these lawsuits that Lotus started, he disapproved of. Because it was *personal*. As he said, it might've been a good MBA decision, but it was a very bad personal decision, and he didn't want to be associated with it. There's a lot of personal involvement.

Very few people are still like that in this business. [Microsoft's Bill] Gates is probably still like that. But it's true, you take things personally, and it's a big difference. See, if an Ashton-Tate product gets a bad review or something like that, nobody cares at Ashton-Tate. Everybody's gone. If a Borland product gets this, I feel personally like I have to do something about it. You're involved with it.

One of the things about the products we've acquired, such as *Paradox*, is that the R&D teams are there, and it becomes part of the family. It's not just we bought a product and we're going to market it. The whole team is in. The same thing with *Reflex*—the whole team is in.

How do you grow? You can't expect the original guys in the company to write all the software that the company will sell when it's a hundred times bigger than it was. So how do you add people? You can hire them, you can acquire smaller companies and bring talent in—as long as you *keep* the talent in. All this is part of the process, and it's very personal. I think Apple was very personal until Jobs left.

In any early growing industry there are people who are exciting, and they're the ones who do things. Years later it's all managers—and nobody could care less who runs the insurance industry. Is there a camaraderie among you pioneers, or are you all competitors looking at each other out of the corner of your eye? Is there some club the Big Guys go to, or is it all competition?

It's a combination of both. There are certain areas where it's very competitive.

I personally don't care. I can sit down with everybody, any competitor. But the other way around is not always the case. People have to realize that we're competing very heavily and there's lots of personalities involved. There's a lot of egos. But in other respects, we all know that we can still sit down and talk.

The problem is, a lot of people come from different universes and have different personalities in this. If you take musicians, they compete to get to the top of the chart, but eventually people can get together and play. In this thing, you don't get together and play—what are you going to do, get together and play on computers or something?

You can't really jam.

Yeah, you can't jam, and the interests in life, for a lot of the people involved, are real different. So it's not necessarily a big club that people go to. It's a little different.

But there's not that many personalities left, I think.

Is fame something that motivates you?

I've found that you never really know until you get there, and the rest is theory.

The big questions are money, or power, or fame. I've found out that it's always tempting in the beginning. It's not unpleasant to be on the cover of a magazine or something like that—or that's what you think. But after a while, I really get tired of it. You really say, hey, I just hate that. Because you can't go anywhere, people start knowing you—there's always someone on a plane that knows who you are and sits down and talks to you about something. When you go to a restaurant in New York, there's always someone who knows you in the room—it's a pain in the neck. In the end it's a pain in the neck because you can't be quiet, you can't sneak in, do your little thing and sneak out.

Do you get a better table at that restaurant in New York?

Yeah, eventually, but it also could impact on your personal life. For all that you get, you lose some freedom. It's great when nobody knows you—you can do a lot of things. When people know you it's more difficult.

Money—you know, there's only so much money you can get and do things with, and then what are you going to do? Are you going to collect it?

The problem is—first, I'm so involved in what I do that I don't have time to spend it. And even then, in the time you have to spend it, there's only so much you can spend unless you want to throw it down the drain. You get a car, you get a house, you get a boat, you get a plane eventually, and so what do you get next? So then suddenly you realize that the old values, which is quality of life, are what counts. But you go through all this process and buy toys and stuff.

As a matter of fact I had another house, and I filled it up with toys, and suddenly I moved out. Chased away by the toys. [laughs] And if you look in this house it's very empty. I just got tired of having *stuff* on the walls, of having objects everywhere. You get tired and you want space. That's really the issue.

So you change, and what becomes important is scary, actually. Because you come to a point where you say, why am I *really* doing this? What's my motivation, and do I really want to do this, and is this the most important thing I can do? And you reach some conclusions that are really different from what a lot of the people around you are doing. Because you see a lot of people are going after money, after power, after fame and all that, and you're really not interested anymore in those things, you just feel, to hell with it. You'd rather do something else.

So why ARE you doing it?

I think because basically it's interesting, there's some challenges there. And also we've created something, there's 400 people there and they're all counting on building something. There's really a loyalty back to the company, and there's also the customers out there who are expecting something, a commitment we made to our customer base that we think we need to fulfill. It's a combination of things.

Do you ever feel like you might do something completely different? Maybe produce a movie?

That's always a possibility. But I wouldn't do it by letting everybody down. But it's always possible that you might get involved in something radically different.

In the same way, since when I got involved in this [Borland] it was radically different from what I was doing before, you can really suddenly say, Okay now, *next!*

But there's also ways to do other things and still be doing this. The magazine experience was a great experience. We've done something real exciting.

On a business level, do you have any regrets?

Sure. We've made some errors. The biggest error we made was in the Macintosh market. We priced a lot of software wrong. It turns out the Macintosh market for a database like *Reflex* is not price sensitive. By putting *Reflex* on the market for $99 we downgraded the image of the product and gave it the reputation of a low-end database, which it isn't.

Some of the reasons we made some marketing errors with the Macintosh—it was a totally foreign thing for me, and I had no idea what marketing on the Macintosh was. Now I know much better. But on the PC side, you do marketing without any alliance to anyone. You just try to reach, in a normal consumer marketing way, the end user, bring a message to the end user, through advertising, direct mail, whatever.

The Mac market, you can't do that. In the Mac market, you can only really succeed if you have a strong alliance with Apple. Which we never had, we might be starting to have, or maybe we'll never have. That was a major strategic mistake in approaching the Mac market. We did well, but we could have done ten times better. But that's something I didn't know.

What do you attribute the lack of a strong relationship with Apple to?

I never had the time to cultivate it. You see, we got busy growing on this side of the hill and avoiding going to the other side of the hill, and building products and stuff like that. And what it takes is going over there, spending a day, and talking and courting people and all that, and it's never been something we've been good at.

We're setting up an independent Mac division right now that'll do business in a Mac way. But I personally don't have the time to do that—I talk to John Sculley once every two weeks or so, we have a conversation, but John is not going to do the thing. . .

You need to hang out with the evangelists. . .

I hate that name [laughs].

Why, because they're evangelizing products that aren't yours?

No, it's just that I hate the association of any religious connotations with computers.

Why?

Well, maybe it's because I'm a Jew. [laughs] I don't think there's anything religious about computers. It's just a tool, and I hate this idea of fanaticism. I think computers are just tools to be used by people, and I don't see why anybody should be fanatic one side or another and try to convince people.

Matter of fact, I think the concept of people trying to convince other people, like evangelism, is one that I don't like at all.

I don't like the word, but eventually they did a good job.

But anyway, it's a different culture.

Do you ever see getting into the hardware side?

For now I think the company's staying away from hardware projects. Our hands are pretty full with software. Software takes time. The real bottleneck of the industry is software, not hardware. It's much easier—if somebody gives you a new processor, it'll probably take you six months to design a new computer and have it working. But to build an operating system will take you a year or two, and to build software will take you many years. So what you usually have is that the software is years behind hardware. Like, there hasn't been any real 286 software ever. Some people are starting to release 386 software, but it's always late. By the time there's 386 software all the 486 machines, or whatever it is, will be out. There's hardly a real 68020 or 68030 software in the Motorola machines like the Macintosh or the Sun, and the 68030's going out.

The bottleneck comes from the fact that no matter how many resources you put behind software, it's ultimately a small group of people, usually less than five, that'll build the product. No matter how much money you have, you cannot put 100 groups of five to speed things up, it's just not going to work. It's just a simple man-limitation and talent limitation.

So for that reason, being in software is a great place to be, because if you know what you're doing you always have the potential to grow.☐

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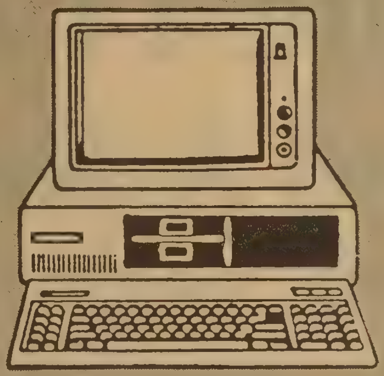

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The Littlest Laptops: Revisited & Renewed

Enhancing The Tandy And NEC Laptop Computers

By Ed Kahn

Ever since Adam Osborne introduced the portable computer bearing his name, it was inevitable that the laptop would have its day. How could something as useful as a computer not inevitably become a portable unit? By today's standards, Osborne's computer was really a lot to lug around, hence the appellation "luggable"; however, it started a movement toward smaller and smaller machines which offered features approaching those of the full size desktop models.

In the early days of true portables, something inevitably had to be sacrificed in order to gain portability. Today it is possible to buy laptop models that offer almost all of the features of the desktop models, with the major exception of color. Now you can buy a machine with fast AT-like processors, internal hard disk drives, and full displays that are easy to read, but such packages will cost you a lot. Even a laptop that is essentially an unadorned PC with an 8088 CPU will cost between $1500 and $2000.

In 1983, NEC, Radio Shack and Olivetti each introduced nearly identical machines. Tandy's Model 100 became one of the best selling computers of all time. The model has recently been superseded by a slimmer version, Model 102, which is otherwise identical to the original machine. While these four machines differ in detail, they all stem from a basic design by Kyocera and operate in a similar manner. However, there are more add-ons available for the Tandy and NEC models. In this article, I will review some of the enhancements that make these little wonders useful many years after other computers of their generation have long since been surpassed by more modern technology.

For me, the year of the portable was 1984 when I purchased my first truly portable computer, a used NEC PC-8201. This machine, which I bought for $195, came with a rechargeable battery pack that runs for several hours, 16K RAM, and a bunch of built-in software. It is the oldest computer which I still use on a regular basis.

Over the years, I have added to this four pound box in order to make it serve as a peripheral for my desktop computer. Although it is possible to run databases, spreadsheets and the like on these miniatures, I use mine exclusively for writing. What I always loved about the portable was the freedom it gave me to type text such as notes, memos, articles and chapters when away from my primary machine. It operates much like a typewriter, but with the ability to cut and paste blocks of text. Not only did I use the laptop, but my wife and ten-year-old child, neither of whom would go near any other computer, did likewise, because there was essentially nothing to learn about the word processor.

MORE RAM

When I bought my NEC it came with only 16K RAM. The first thing I did was install additional memory. The slick place to buy the 8K chips the machine requires is Node Computer Systems, which sells the memory for

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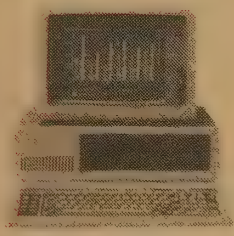

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If you are going to be away from your desktop computer for a long while, there is no question about the value of having a disk drive and operating system to integrate the drive with the laptop.

$19 per chip. The good thing about Node is not only the price but the warranty, which is a no-nonsense replacement policy should the chip not work. (I broke one on installation and they replaced it without charge!)

For some time, I used the little computer only to write memos and notes at home because of the limitation of the screen which displays only eight rows and forty columns. In time, I enhanced the machine, as I will discuss below, to the point where I could use it to write this entire article. This computer now handles all my normal word processing needs when I am away from my desk.

IMPROVED DISPLAY, BETTER SOFTWARE

Several solutions are now available to solve the main drawback of the computer, which is its small display. Years ago, several enterprising programmers came out with software that would allow you to format the output for the printer of your choice. The real breakthrough came, however, when The Covington Group released *Lapworld*, a text formatter that not only formatted output for your printer, but had a whole host of other features that instantly transformed the Tandy and NEC laptops from note-taking machines into serious computers by allowing you to virtually overcome the limitations of the small display.

Although the software version available from Covington is no longer on the market, Traveling Software has developed a program that incorporates all the features of the software program along with many additional capabilities. Released as *T-Word*, the program is available on a ROM chip in either of two ways. *T-Word* comes as part of a chip called The Ultimate ROM II ($229.85) which contains not only *T-Word*, but also *T-Base*, a sophisticated data base program that can import and export *dBASE* and *R:BASE* files. It also contains *Idea*, an outliner program; *ROM-View 80*, a program allowing you to display up to 80 columns in place of the 40 that's standard on these machines, and *Portable Disk Drive Support*, which allows you to print and preview files from a portable disk drive available for these computers.

Traveling Software recently released Sardine, a ROM chip which contains an enhanced version of *T-Word* as well as a spelling checker with over 7,000 of the most frequently-used business words. At $169.95 this chip is the least expensive way to get *T-Word*. Aside from its normal sophisticated text formatting features, *T-Word* allows you to plot a representation of how your document will look when printed out. With the press of a button, you can see your document displayed page by page, with each letter or punctuation mark represented by a single pixel. Each press of the space bar will display a succeeding page of the document. The ability to see this graphic representation of the entire document allows you to feel the flow of long documents.

The spelling checker itself is everything that one could expect in a program that contains only 7,000 words. If you want Sardine to recognize a word it does not know, you can direct the program to place it in a personal word list, a standard text file which is checked automatically by the program and which you can edit like any other document you have created. In addition to the standard features, Sardine will also detect double occurrences of words. For example, you can see that that would cause Sardine to ask if you really want both occurrences of "that" in this sentence. More often than not, the second occurrence will be a mistake rather than simply bad writing.

While the checker has only 7,000 words on the ROM chip, the Sardine package also comes with a 3½" disk that can be used with the Tandy portable disk drive. This disk contains 33,000 words drawn from the *Random House Pocket Dictionary*. Sardine is the first program of this type available for a portable computer. While no fault can be found with the program, I prefer to run documents through the huge 87,000 word spelling checker that comes with *WordStar* after I transfer them to the desktop.

At some point each user must decide just what he or she wants from a portable computer. If you want the machine to approximate a standalone unit, then you should explore the wide range of applications and accessories available from Traveling Software. A catalog listing all of Traveling Software's product is available upon request.

As far as I am concerned, anyone who invests in either an NEC or a Tandy portable should get either The Ultimate ROM II or Sardine. The next step to broaden the usefulness of the laptop is some sort of external storage medium other than a cassette recorder.

EXTERNAL STORAGE

Several manufacturers have marketed portable disk drives. The most widely used one these days is the Tandy 2, which runs on either a six-volt power supply or four AA batteries. The drive, which allows for the storage of up to 200K of files, connects to the computer with a cable which is provided. To move the files back and forth easily, view and print files directly from the disk and kill files on disk, however, you must buy Traveling Software's TS-DOS (partly included in The Ultimate ROM II). If you purchase the Tandy Drive directly from Traveling, you will receive TS-DOS with the package for $249. If you are going to be away from your desktop computer for a long while, then there is no question about the value of having a disk drive and operating system to integrate the drive with the laptop. Once you have a disk drive, there are a bunch of other goodies available to you.

The disk drive allows you to truly integrate your laptop with your desktop, whether it is an IBM/Clone or a Mac. Traveling Software has released two programs for connecting the Tandy drive with the desktop. *LAPDOS* ($89.95) comes with a hardware connector which allows you to use the same cable that was provided with the disk drive to connect the drive to the desktop PC. Then, with the *LAPDOS* program installed on the PC, you will see a split screen listing the files on the PC on the left side and the files on the portable disk drive on the right side. You can move files back and forth, mass copy files, and most importantly, convert files in and out of special formats like *WordStar*. This means that you can copy a *WordStar* file to the disk drive and then put it on your NEC or Tandy. This is great for taking along files that you are in the middle of creating. If you use The Ultimate ROM II, *LAPDOS* will also allow you to swap *dBASE* and *T-Base* files.

Soon after getting the NEC, I constructed a serial cable to go between the NEC and my desktop machine. In those days, I was using a CP/M desktop. I had to do a bit of research to construct the right cable, but soon it worked like a charm. With the use of a simple communications program and the communications program built into the laptop, I was able to transfer files at a rapid rate between the laptop and desktop. When I moved up to an MS-DOS machine, I phoned NEC to learn the appropriate cable description. Again, I used a simple communications program and the laptop files moved over to the desktop flawlessly.

This procedure still works perfectly well, and in some ways is a lot easier than using *LAPDOS*. With *LAPDOS*, I first have to transfer the files to the disk drive—a simple procedure. And then, I have to unplug the cable from the portable and plug it into the desktop machine. By the time I have done all of this, it is often simpler to use my old standby cable which establishes a direct link between the laptop and the desktop machines. Moving WordStar files from the desktop to the portable is not as easy. For this job, *LAPDOS* is the simplest solution.

Virtually all of the laptop machines that are getting press coverage these days are PC compatibles. To date, there are no serious contenders in the Macintosh market, although several companies are buying Macs and using the innards to create portable Macs costing thousands of dollars. For the Mac user, however, portables like the Tandy or NEC might be just the ticket thanks to the new *MacDOS* ($94.95) package that Traveling Software has just released. It operates very much like *LAPDOS*, but it is set up to transfer files to and from a Mac, taking advantage of the Macintosh user interface.

Once you get into the miniature world of laptops, you will discover an abundance of hardware and software products that can be used to soup them up and connect them to desktop units. If, however, you want to use the laptop as your only machine, it might be worthwhile to purchase a portable printer as well. For less money than an MS-DOS portable, and definitely less weight, you can outfit yourself with a truly portable unit that may be just what you need and no more.

This is indeed the year of the laptop. New products are on the horizon, but until someone comes up with a computer that weighs less than four pounds and costs less than $500, I see a continued usefulness for the old standby portables like the Tandy 100, Tandy 102, and the NEC 8201. And while Traveling Software has over the years shown itself to be the major developer and marketer of add-ons for these little guys, it is by no means the only company devoted to extending and expanding their usefulness. ☐

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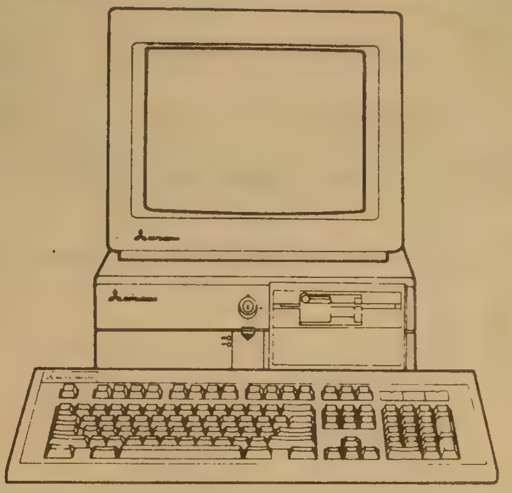

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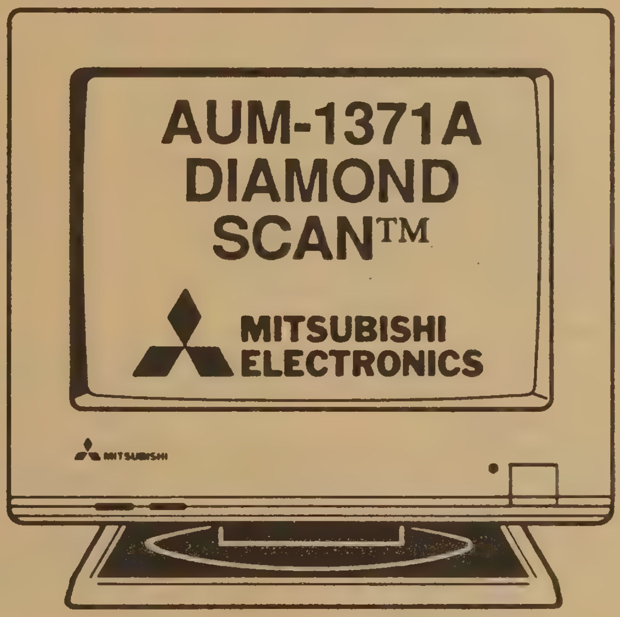

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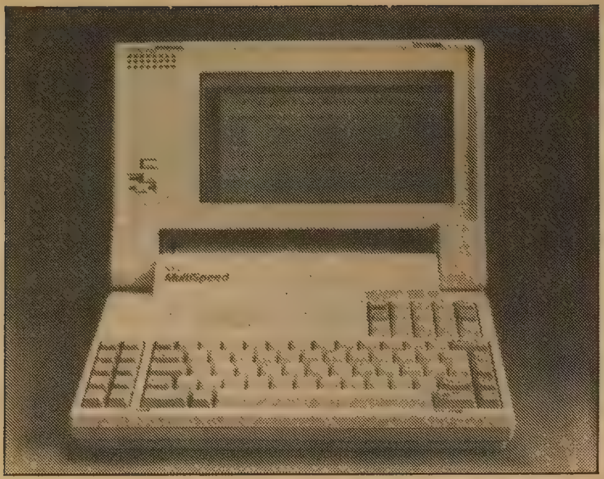

The NEC Multispeed And Multispeed EL

Power And Functionality With Or Without Your Desktop

By Wayne A. Yacco

Once a curiosity, incapable of handling heavy-duty desktop applications, the typical laptop now has power comparable to an XT, and often beyond. These machines are completely portable, but can be used with external peripherals at the office desk for nearly perfect ergonomic comfort. They are also more likely to contain a hard disk.

The best news is that sophisticated IBM-compatible laptop computers have fallen in price to the point where they're affordable for just about anyone considering the purchase of an XT. Those prices begin at less than $900 and include a single drive and the display. For slightly more (at street prices), turbo speed, a second drive, and built-in software can be had.

I recently had the opportunity to work with one of the better of these true portables, the NEC Multispeed, over a period of several months. I worked in the field with its built-in software, substituted it for my desktop machine, and used the laptop's disk drives as external drives for my desktop.

HARDWARE FEATURES

For under $2,000 list, the Multispeed delivers not only all the power most users want, but all the power they can use. This is a turbo machine (9.44 MHz clock speed) with scrolling that seems as fast as that of an AT. Since most laptop computing is likely to be interactive and I/O bound, rather than compute bound, typical users may not benefit from the additional speed of an 80286-based machine. Certainly, most will not benefit to the extent of an additional $1,500.

This laptop includes serial and parallel ports as standard features. My test unit also included a 1200 bps modem. A full 640 KB of memory is standard. Part of the base memory, 128 KB, is CMOS, which can be allocated to a ramdrive.

The available ramdrive, C:, is not distributed by resetting or powering down the system, so, it is a convenient working area for virtually instantaneous file saves. Using it further conserves power since the drive motors are idle more often. At the end of a session, it is not necessary to copy files from the ramdrive to a diskette unless the battery is to be removed or it is ready to run out of energy. If migration is overlooked occasionally, the file will usually still be there the next time the system is started. (Running the setup program to change memory allocations also causes a data loss in the ramdisk.)

I was disappointed that the CMOS allocated to the ramdrive was insufficient to hold most of the operating system. A second missed memory opportunity was the use of the video address space. Since this laptop offers no expansion slots on its bus there is no reason not to use some of the memory-address space which is normally reserved for EGA video.

The NEC system has the ability to skip the ram-test part of the power-on self test (POST). Users with memory-laden ATs or 80386 deskframes will immediately wonder why this feature isn't standard on every machine, particularly those with an eight-to-sixteen-megabyte behemoth.

Any system can be made to crash if the user is careless enough. At that point, the user will appreciate the reset button provided on the back of the unit. There is one complication, however. After hitting that reset button, failing to execute the COLD. COM program can cause all sorts of gremlins to rise from their estivation. At that point, the user will appreciate the reset button.

The Multispeed's display is relatively easy to read due to the twisted-crystal technology employed in its design. However, at the spring COMDEX this year, NEC unveiled the $2,499 Multispeed EL. This model incorporates a new LCD display with electroluminescent backlighting.

With the aid of electroluminescence, available background lighting is no longer a factor. The EL display should be much easier to read in situations such as the one I am in while writing this copy in the air. While the standard unit rests on the lap tray of a Super 80, it is impossible to aim the fixed cabin reading lights directly on its screen. The user's eyes are quickly fatigued as a consequence.

Fortunately, the new screen is available as a $499 upgrade for existing machines. Since all of the EL's enhancements are contained in the display itself, and the upgrade price is equivalent to the difference in the two machines, early purchasers do not pay a premium. NEC's EL display also features a friction lock that positions the screen at any angle. The original design is very prone to damage if it is forced to move in the wrong direction once it has been adjusted.

The EL display offers features which improve its utility in a variety of situations. For example, after ten minutes the backlighting automatically turns off. There are also three slide switches. One allows the electroluminescence to be turned off to conserve power; in use, it cuts battery life almost in half, but it isn't required in brightly lit environments. The other two switches consist of the standard LCD's contrast control and a newly added brightness control.

Most portable keyboards are dismal when compared to that of a desktop. On this machine, the home row is easily found with the index fingers because NEC has dished the "F" and "H" keys. This is a clever little feature that a touch typist may appreciate on the slightly smaller keyboard. Tactile response is missing though.

FIELD USE

Of course, the main thing that anyone wants a laptop for is topping their lap somewhere out in the field. Why else would we settle for little toy keyboards and a lack of expansion slots? NEC caters to that need with a high-quality, padded-nylon carrying case. There is both a handle and a shoulder strap, in addition to a separate case for diskettes that attaches to the larger case's straps.

I tested this case when I attended the West Coast Computer Faire not long ago and again more recently at COMDEX. Although the computer is very lightweight, when you add manuals and several boxes of diskettes, it adds up to about twenty pounds. By the time you've toured two airports, and shuttled out to a hotel, you've got a grip on both handles. It's a good design; both my hand and my shoulder survived. It also fits easily under most aircraft seats (except some aisle seats with narrow designs — check when you book) and it's easy to open and operate during airport-security checks.

Speaking of airport-security checks: Here's a lesson in something to avoid with the Multispeed. The back of this unit sports a very handy little recessed switch that allows the user to conserve battery power for prolonged periods of storage. It is labeled "Back Up Power Off On." My understanding was that it disabled power from the CMOS memory used by the ram disk, but I had not used it before the flight to COMDEX.

While preparing for the flight to Atlanta I decided to turn this back-up switch off. Needless to say, it had completely slipped my mind by the following morning as I prepared to board my flight. Until, that is, a security officer asked me to turn on the machine. It is standard airport procedure to activate sealed electronics and assure that all is what it seems.

When the unit failed to start immediately, my first assumption was a dead battery and we connected the external power supply between an outlet and the Multispeed. The screen remained blank. It didn't take me long to realize what I had done, perhaps a second. That hidden switch had actually shut down everything including the main power.

As I turned to explain, the expression on the guard's face was anything but its former smile of friendly assistance. His eyes seemed to say "Oh yeah, sure..." and I could feel them pressing on my back like a double-barreled shotgun while I sweated and fumbled over that miniscule slide switch. There may have been some significance in the fact that the instrument he offered to help me reset the switch with was a tiny key — a handcuff key.

What the guardian of the airport briefly contemplated was apparently a bit of lost freedom for Yours Truly. A portable need not commit a clumsy *faux pas* to experience the same effect. It loses some of its freedom of movement with every accessory that must be toted along, including manuals.

Studying the manuals in advance can partially alleviate the situation, but most users would probably ben-

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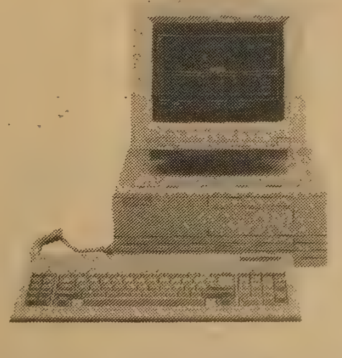

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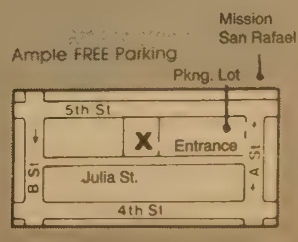

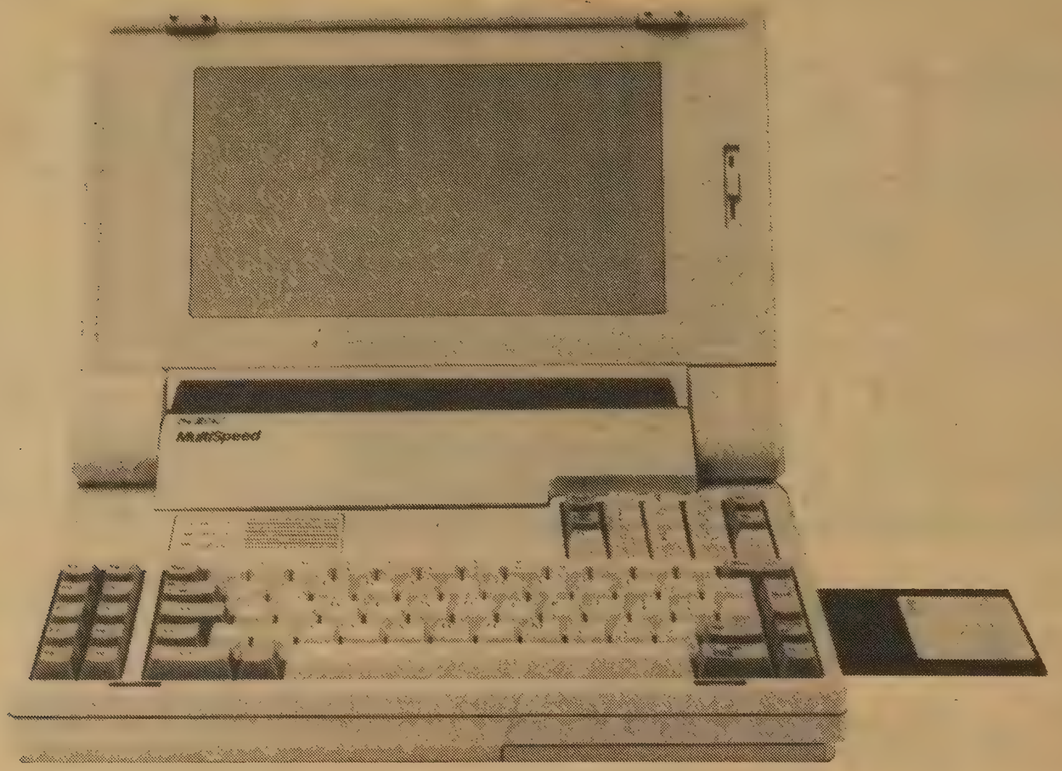

With superior display, ergonomic design, and all the power most users need, the NEC Multispeed and Multispeed EL (with screen display) may actually eliminate your need for a desktop computer.

efit from the inclusion of a quick-reference card. One that would fit exactly within the recessed area of the screen would allow easy storage during movement.

Instead of a reference card, the Multispeed has a help facility. Its screens are wonderful tutorials for the novice user. Help is invoked with a dedicated key. That's convenient.

One thing to consider in purchasing a laptop that will actually be used in field situations is the depth of the machine. The longer the unit is, the longer the lap must be. If the lap length is too short, the heavy rear end of the Multispeed tends to make it want to slide off over the knees. Something that no one should have on their lap when using one of these machines is my stomach.

A laptop's usefulness is not limited exclusively to working in the field either. Another time the Multispeed came in handy was right before a deadline when my AT's hard disk went out. Rather than move equipment off of my desk, I set up shop on a couch. I used the Setup menu to choose CRT output and plugged into a Thomson Ultrascan on the coffee table. The monitor automatically switched to the laptop's CGA output.

BUILT-IN SOFTWARE

The Multispeed's built-in software is fairly useful. In the air, I was able to use the machine for taking notes and working on some files that had been started earlier. The software resides in the NEC's 512 kilobytes of read-only memory so the drives are free to hold the operating system and work files. Programs include a notepad, filer, outliner, dialer and a setup program for video, speed, ramdisk, and other configuration options.

I found the notepad to be quite satisfactory. Aside from mail merge and formatting facilities, there isn't much separating it from many full-fledged word processors. One of its few annoying limitations is its inability to specify path names.

Notepad commands are not quite familiar but are easily assimilated. A good test for this is to try finding all the commands without the manual. Some *Wordstar* keystrokes work; some commands are similar to other major word processors; many of the rest are intuitive. Commands for cut and paste, search, and spell checking, among many others, are invoked by the function keys. Fortunately, the complete list is available with a single stroke of the help key.

The help screens are less effective when it comes to offering instructions for command usage. For example, if the user wants to display the disk directory from within the notepad, HELP advises the display of the DIRECTORY WINDOW. Unfortunately, the manner in which this is accomplished is one of the less obvious notepad protocols, and it is not explained. A user familiar with Microsoft *Word* will have an advantage because the arrow keys are used, from within the load command, in a manner similar to that of the Microsoft program. Otherwise, the manual must be consulted.

For *MS Word* users, one of the slightly less-intuitive variety of commands is Ctrl-PgDn to move the document, rather than the window, down. This leaves the cursor at the top of the document, which is what you might expect from the inverse command, Ctrl-PgUp. PgUp and PgDn work the same way for single page movements.

The pop-up notepad lacks the ability to retain data, the way that *Sidekick* does when it is not active. This makes it impossible to leave the notepad and change directories before saving a file. Files can only be saved to the current directory, or to the root directory, of a specified drive. The notepad, and several other built-in programs, can also be implemented as a stand-alone application with access to an unlimited portion of available RAM.

The integral spelling checker is vaguely reminiscent of *MS Word*'s, but much easier to use because it is online. Its instantaneous response when checking a single word, a portion of a document, or an entire document, provides a great deal more utility than the checker that is part of *Word*. Unfortunately, RAM residence limits it to a tiny dictionary that is only useful for catching common typographical errors. It has difficulty with a great many words, including simple variant forms such as plurals.

NEC has included the ability to create user-defined dictionary supplements, but the gap between the 20,000 words provided and the 80,000 or 100,000 words available in full-featured spelling checkers is too wide to bridge unless you're a direct descendant of Noah Webster. The supplement must also reside in memory, on the limited ramdisk, so even the master lexographer himself couldn't really help much. Perhaps a diskette-based dictionary will be forthcoming. Otherwise, the documents can simply be checked on the desktop.

There are three other applications. A simple filer is included that can create card-file-type records with little effort. An outliner helps to create notes in a structured outline. The dialer may be used in conjunction with the built-in modem to place calls automatically.

FILE SHUTTLE

File Shuttle provided the fastest transfers, considerably faster than some. Files are moved over the parallel port. The program comes with a special adapter that converts the Centronics-type connector, on the business end of the printer cable, to a 25-pin D-shell connector that will plug into the printer port of the second machine. Since there is no need for a special cable, it is very portable.

Getc Software's package works *from* either machine *to* either machine. Both machines must be set up with the program; then one must be chosen to send, the other to receive. To call it simple to use would be an understatement.

File Shuttle also has the ability to transfer files through the serial port using a full-handshake null-modem cable, but I experienced difficulties that prevented me from using it successfully in this mode. Getc blames my cable for this. However, since it was necessary for me to construct the special cable, it still amounts to a problem with the package, whatever the cause. (Note: All of my other custom cables have worked in the past.)

BROOKLYN BRIDGE

Brooklyn Bridge was the second fastest of these programs. A simple crossover cable is all that is required to connect the laptop to the other machine. Although it transmits over the serial port, a single bit at a time, *Bridge* is very nearly as fast as *File Shuttle*.

There is considerably more setup required for this system. A program must be run on one machine, which then becomes a slave to the other. The maste, or host, machine must then be reinitialized with one or more drivers specified in the CONFIG.SYS file. Drives on the slave are then referenced by new designators that consecutively follow the native devices of the host unit.

After the adjustments are made, the remote drives are referenced in commands just as though they were local to the host machine. Files can not only be transferred by the COPY command, the full complement of DOS functions can be used on them. Thus, the additional effort required to use *Brooklyn Bridge* is rewarded with extra functionality.

LAP LINK

This program also requires a crossover cable to connect the laptop's serial port to a desktop. In practice, a single program is run on both machines. It splits the screen in two on each monitor, with one machine's current directory shown on each side of the screen. Files or directories are identified with a cursor, and actions are carried out according to selections from a menu across the bottom of the screen.

Lap Link is, perhaps, the most reliable of these products. Some serial

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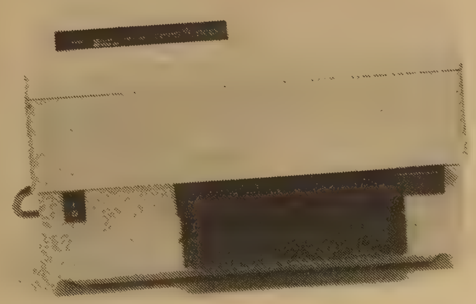

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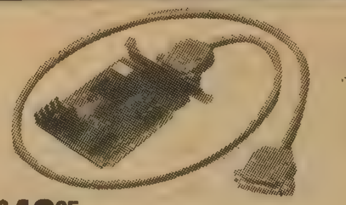

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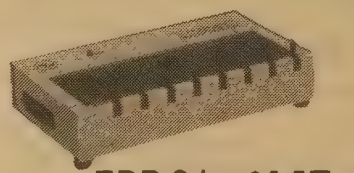

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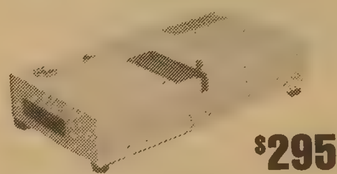
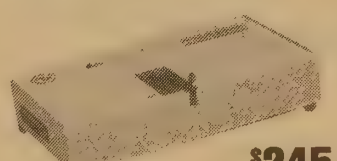
- BLANK CHECK and Security Fuse blow.
- Short circuit protection.



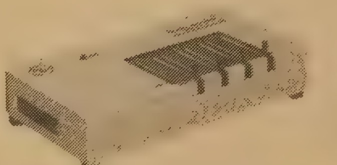
$295

Bipolar Programmer (BPP-01)
- Manufacturers: MMI, NS, TI and Signetics
- 16-20 pin 63S080-63S1641, 74S188-74S573, 87S184-87S195B, 24S10-24SA81, 82S23-82S195.
- Read INTEL, Motorola, Tek HEX file.
- LOAD, SAVE, EDIT, READ, WRITE, VERIFY.
- Data exchange in High nibbles & Low nibbles.
- Short circuit protection.



$245

8751/44/52/252 Programmer (51P-01)
- Types: 8744H, 8751H, 87C51, 8752H, 87C252
- Algorithm: Normal & Intelligent.
- FAST: 32 sec only for 8751H
- Read INTEL, Motorola, Tek HEX file.
- LOAD, SAVE, EDIT, BLANK, READ, WRITE, VERIFY, COMPARE and Security programming.
- Short circuit protection.



48P-01 **$195**
48P-04 **$245**
48P-08 **$345**

8741/42/48/49/50 Programmer (48P-01, 04, 08)
- EPROM Types: 8741(A), 8742(A), 8748(A), 8749H, 8750H
- PROM Types: 8041(A), 8042(H), 8048(H), 8049H, 8050H.
- Algorithm: Normal & Intelligent.
- FAST: 16 sec only for 8749.
- Disassembler for 8748.
- Read INTEL, Motorola, Tek HEX file.
- LOAD, SAVE, EDIT, BLANK, READ, WRITE, VERIFY and COMPARE functions.
- Hardware timer for proper program timing.

xeltek
473 Sapena Ct.
Unit 24
Santa Clara, CA 95054

master charge VISA

DISCOUNT:
$30 discount applies to 2nd programmer or tester modules and more purchased at the same time.

ports caused the other alternatives to fail due to incompatibility. This system failed only on a PS/2, and Traveling Software claims that the next release will solve that problem. It apparently pays for this reliability by being fairly slow. If the volume of data to be transferred is not great, then this may be tolerable and offset by the ease of use.

TRANSFERRING WORK TO THE DESKTOP

There was just one minor complication with my trials of NEC's laptop. The Multispeed uses those newfangled 3.5-inch diskettes and the other systems in my office have no fangs (they use 5.25-inch floppies). That implied two things. One, there were no media available for testing purposes and, two, the Multispeed couldn't exchange files with my main silicon through the exchange of diskettes.

The first problem was fairly easy to solve: I got some new diskettes. Because micro diskettes use a high-coercivity coating, and record at higher density than ordinary mini diskettes, I was concerned with media quality. The smaller radius of the micro floppy disk requires spacing of 135 TPI (tracks per inch) compared to 35 – 96 TPI for the larger mini floppies. I tried two brands, Memorex and Centech, for my tests and each performed flawlessly. Both were brand names that I had used before.

While I wrote this on the Multispeed, I did not want to apply the final polish there. My preference is to use *MS Word* or *WordPerfect* for formatting. That allows me send the output to my laser printer formatted with one of the several printer codes supported by the Mannesmann 910's emulations. It also gives me access to the additional spell-checking power discussed earlier. However, my hard disks have spoiled me for swapping diskettes when I can avoid it, so that means getting files from the lap to the desk.

Modems offer an answer to this minor dilemma, but they require familiarity with telecommunications protocols and setting up complex programs on both machines. A superior solution has recently come on the scene in the guise of several transfer programs.

One of the things I did at the Computer Faire was to obtain several of these to test. They included *Lap Link*, *Brooklyn Bridge*, and *File Shuttle*. Each of the new products was capable of moving files from one format to the other and each had its advantages and disadvantages. All three of them provide software (in both 3.5 and 5.25 formats) and a crossover cable or, in the case of *File Shuttle*, an adapter to connect a printer cable between two machines.

One other product tested was *The Knowledge Network*, and it did not have files in both formats. Its files have to be transferred, by modem or another program, before it will run on the laptop. Cables are replaced by standard four-conductor telephone wire.

THE KNOWLEDGE NETWORK

This networking system is not specifically designed for use in the transfer of files between laptops and desktops. The *Network* comes with its files on 5.25-inch diskettes only, and that makes it necessary to copy files to the smaller-format media before it can be used for further transfers of other files. Its advantages include the ability to use all nodes independently, to use all DOS functions, and to effect transfers between multiple nodes simultaneously. The cost for this functionality is slowness.

The Knowledge Network uses modular telephone connectors and wiring. Attachments are made, via special 25-pin D-shells, to the serial ports of the machines on the network. It requires first that drivers be installed during system initialization, then further configuration with another setup program to designate drive identifiers. The result is similar to that of *Brooklyn Bridge*, except that the possibilities for confusion are multiplied by the number of nodes on the system. Each node potentially references drives on the other nodes by different designations than do all others.

SUMMARY

The NEC Multispeed, and other new laptop designs, have removed this type of system from its former domain of limited applications and placed it into the power category of full sized microcomputers. Advances in ergonomics and integrated utilities make using a laptop nearly as productive as an office system. Their greatest potential comes from easy integration with desktop computers which allow full utilization of peripherals and large application systems. □

Product Information

Lap-Link
Traveling Software
19310 North Creek Parkway
Bothell, WA 98011
(206) 483-8080

The Brooklyn Bridge
White Crane Systems, Inc.
6889 Peachtree Industrial Boulevard,
Suite 151
Norcross, GA 30092
(404) 454-7911

File Shuttle
Getc Software Inc.
1269 Howe Street
Vancouver, B.C.
V6C 1R3
(604) 687-3606

The Knowledge Network
Applied Knowledge Groups, Inc.
1095 East Duane Avenue, Suite 203
Sunnyvale, CA 94086
(408) 739-0300

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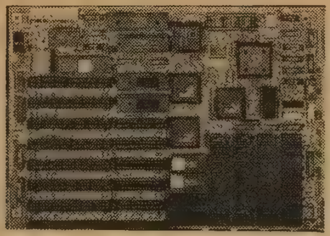
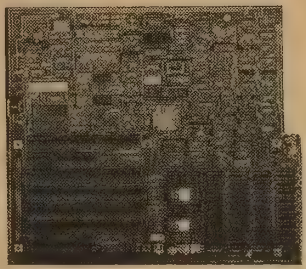


BABY 286 MAINBOARD

- 80286-10 CPU
- 10 MHz Zero Wait State
- Phoenix Bios

ACM-2130 .... **$295**



STANDARD 286 MAINBOARD

- 80286-10 CPU
- 10 MHz Zero Wait State
- Phoenix Bios

ACM-2030 .... **$295**

10 MHz MULTI TURBO MAINBOARD

- 8088-1 CPU
- Zero Wait State
- Phoenix Bios
- Multi I/O Functions On Board

ACM-8031 .... **$115**

MULTI VIDEO ADAPTER with PRINTER PORT

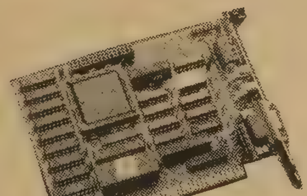
- CGA, MGA Hercules Compatible
- Plantronics Colorplus Compatible

ACV-3310 .... **$115**

10 MHz TURBO MAINBOARD

- 8088-1 (V20) CPU
- Zero Wait State
- Phoenix Bios
- On Board Memory expands to 1 MB

ACM-8030 .... **$75**



HEGA-II AUTO SWITCH ENHANCED GRAPHICS ADAPTER

- CGA, MGA Hercules Graphics Compatible
- EGA Compatible
- Plantronics Colorplus Compatible

ACV-4220 .... **$110**

MAINBOARDS: (With PHOENIX BIOS)

• STANDARD 286 6/8 MHZ MAINBOARD 80284-8, 1 Wait State, Phoenix Bios ACM-2010	$240
• 8 MHZ TURBO MAINBOARD 8088-2 (V20) ACM-8020	$70
• 8088 4.77 MAINBOARD 8088, Phoenix Bios ACM-8000	$65

VIDEO ADAPTERS

• MONOCHROME GRAPHICS ADAPTER w/Printer Port, MGA Herc. Compatible ACV-2330	$50
• COLOR GRAPHICS ADAPTER w/Printer Port ACV-1130	$45
• COLOR GRAPHICS ADAPTER ACV-1030	$38
• MONOCHROME GRAPHICS ADAPTER Hercules Graphics Compatible ACV-3010	$45
• ENHANCED GRAPHICS ADAPTER ACV-4010	$90

I/O ADAPTERS

• FOUR SERIAL PORT COMMUNICATIONS ADAPTER ACI-1010	$90
• TWO SERIAL PORT COMMUNICATIONS ADAPTER ACI-1110	$35
• TWO SERIAL PORTS/ONE PARALLEL PORT ADAPTER ACI-1210	$40
• 1.2 MB/360K FLOPPY DISK CONTROLLER ACI-1510	$50
• MULTIFUNCTION I/O ADAPTER Short Size 20 cm x 11 cm ACI-8020	$50
• 640K MULTIFUNCTION CARD	$60
• HARD DISK CONTROLLER	$150
• I/O PLUS II ACI-8110	$45
• FLOPPY DISK CONTROLLER ACI-8520	$28
• GAME I/O ADAPTER ACI-1410	$18
• PARALLEL PRINTER PORT ACI-1310	$18

KEYBOARDS

• 5060 KEYBOARD	$45
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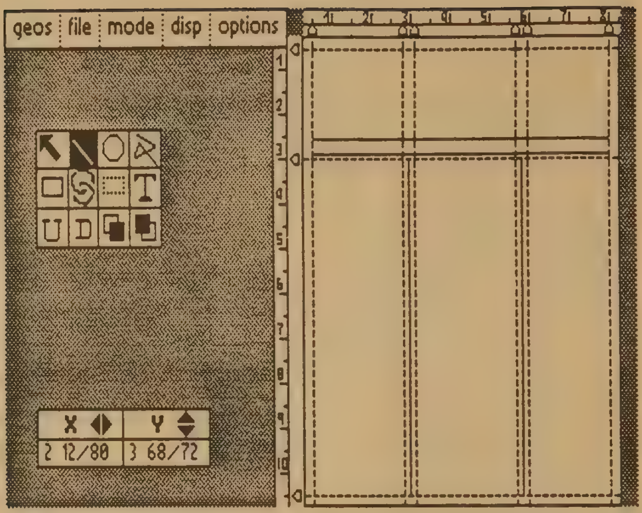
How GEOS Revived The Commodore 64

By Sue Albert

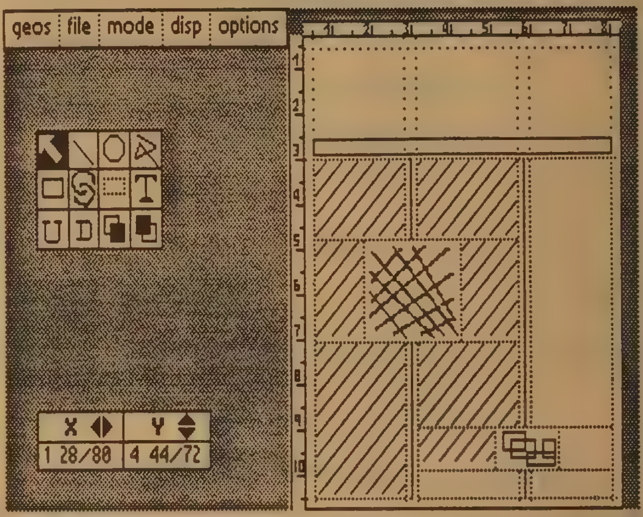
Two years ago, with the introduction of the Amiga, word began to circulate that the Commodore 64 was dead, the 128 a flash in the pan, and Commodore Business Machines itself was skidding towards Chapter 11. Cheap PC clones seemed to be writing the epitaph of this low end machine with the toy store stigma. Few reckoned on the tough and faithful C64 users and a tiny software consulting firm in Berkeley.

With its very low start up price (less than $300 for computer and disk drive) and literally thousands of available (often free) programs, the Commodore 64 remains the largest-selling home computer in the US with an estimated five to six million users. C64 users support over half a dozen nationally distributed magazines, a hundred or more small newsletters and SIG publications, and dozens of developers. With the low cost balanced by having to work a bit harder for results, the negligible user support from CBM, and a haughty disdain from the rest of the computer industry, Commodore users have developed a thick skin and a kind of reverse snobbery; "Let's squeeze these 64K 'til they do what Big Blue and the Fruit Company do."

In February of 1986 Berkeley Softworks demonstrated its uniqueness in understanding this attitude. At the packed San Francisco Commodore Show the new Graphics Environment Operating System, known as GEOS, created almost as much excitement as the new Amiga demonstrations. Users saw what looked like a Macintosh screen operating on the Commodore 64. The GEOS version 1.0 consisted of *GEOWrite*, a WYSIWYG (What You See Is What You Get) word processor with six mixable fonts and *GEOPaint*, a feature laden drawing program. They also offered clever desk accessories



1) Master Page Mode — vertical and horizontal guidelines defined by clicking on rulers above and to the left of the 8-1/2 x 11 inch page. Some horizontal and vertical lines also drawn to separate the columns and to set off the masthead area. These master page graphics elements will appear on each page of our finished document.



2) Graphics Mode — On this screen you see a half-completed design for page 1 of our document. Using Page Layout mode, we have already set up three column regions and chose the text article to flow into them. The slanted lines show how much of each column is filled with text. Then, using Page Graphics mode, we drew some line graphics into two boxes which overlap the text columns, causing the text to flow around these boxes.

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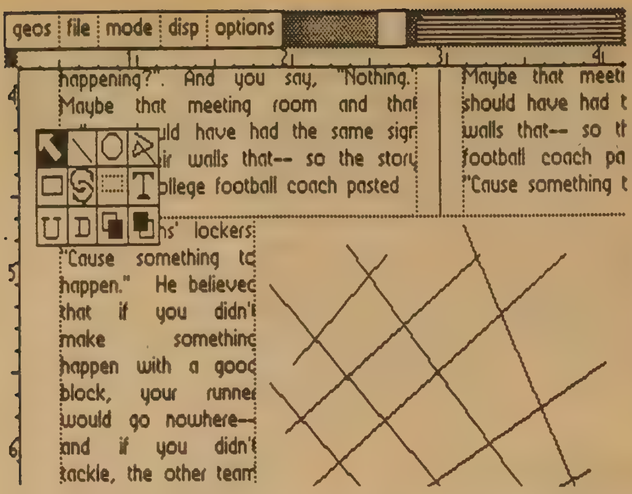

happening?". And you say, "Nothing.
Maybe that meeting room and that
ld have had the same sigr
ir walls that-- so the story
ollege football coach pasted
s' lockers
"Cause something tc
happen." He believec
that if you didn't
make somethinc
happen with a gooc
block, your runne
would go nowhere--
and if you didn't
tackle, the other team

Maybe that meeti
should have had t
walls that-- so tl
football coach pa
"Cause something t

3) Zoom Display — This screen shows GeoPublish's WYSIWYG (what you see is what you get) facility; what you see on the screen is exactly what will be printed, including text in various fonts and styles, bitmapped images, and line graphics.

like an alarm clock, calculator and memo pad, all using icons, drop-down menus and dialog windows. Designed to be used with the long-promised, but undelivered, C64 mouse, it was shown with a joystick for input and was, like the Macintosh, black-and-white.

For $59.95, early mail order purchasers of version 1.0 found GEOS did not turn the Commodore 64 into an "intuitive" Macintosh. It was actually labor intensive, rather complex, short on printer drivers, endowed with a bug or two, and accompanied by an obtuse manual. By June of 1986 Berkeley Softworks delivered on its promise of an upgrade. Purchasers of 1.0 received a free pack of 20 fonts and a debugged version 1.2 with a lucid manual, printer drivers, and shiny new features — including 16 colors in *GEOPaint*. By piggybacking the terminal program on the GEOS disk flipside, all purchasers were introduced to Quantum Link, a Commodore-only telecommunications network featuring user support for GEOS with help columns and an online forum.

Now the real promise of this still-complex but revolutionary operating system was apparent. Speeding up the disk drive six times and using it as virtual memory allowed the C64 to perform operations similar to those of machines with multifold memory and whopping price tags. The "moveable" program modules let users customize a data disk and suggested all kinds of follow-on programs.

Follow on they did! Berkeley Softworks has since introduced a whole line of new GEOS products, sometimes one a month. GEOS has been designated the official disk operating system of the Commodore 64/64C by Commodore Business Machines and won the "Best Technical Achievement Award" at the recent Software Publishers Association Awards Presentation for 1986.

The young man behind this programming and marketing phenomenon is Brian Dougherty. His interest in computers originated in college with his introduction to early home computers. After graduation from UC Berkeley in 1979, Doughtery worked on hardware and software development as a design engineer for the Intellivision system division at Mattel, Inc. Later as a founder and vice president of engineering at Imagic, he helped to develop over 35 products including video games and educational software. In 1983 he left Imagic to start Berkeley Softworks in a high-rise overlooking the UC Berkeley campus, where he could benefit from Cal's outstanding research facilities and recruit bright students to his staff.

Initially BSW developed software for the Apple, IBM, and Commodore computers and even designed an LCD laptop computer. In the process, the company gathered the resources to equip itself for its own product development.

In researching the market, Dougherty found what he believed was untapped potential in the huge user base and the poorly perceived built-in DOS (disk operating system) of the Commodore 64. Following through on this perception and tying the GEOS program into Quantum Link while contracting with Commodore to package it with the C64, in its sharp new 64C case, proved an excellent marketing strategy. In the last year, an estimated half million purchasers formed a whole new generation of Commodore users, who cut their computing teeth on the GEOS operating system and now think of GEOS as synonymous with word processing and graphics.

Berkeley Softworks can barely keep up with user demands for new products, although in the last year they have introduced six products and have four more near release, and several in the pipeline.

Writer's Workshop led the way. An improved, full featured word processor, it can import text from other word processors and has a drive for the Apple LaserWriter. An 80-column 128 version is nearing release. *DeskPack1* desk accessories followed with a "grabber" for importing graphics from other popular programs. Then came *GEODex*, an electronic rolodex and labelmaker; *GEOFile*, a sophisticated database with graphic capabilities; a just released powerful spreadsheet program, *GEOCalc*; and a GEOPrint cable which speeds printing with GEOS programs.

In the works are a GEOMouse one-button mouse with a built-in clock-dating feature, *DeskPaint2* containing both a spellchecker called *GEOSpell* and chart program, and the eagerly awaited *GEOProgrammer* for applications development.

The most exciting new program, *GEOPublish* is slated for September release. I was given a demonstration of the prototype of this powerful desktop publishing program at Berkeley Softworks. It was demonstrated on a 128 in 64 mode with a RAM Disk memory expansion and the 1351 mouse. The speed and performance were very impressive, as was the outstanding output with the Apple LaserWriter. This program is going to blow some big ships out of the water with its sophisticated features and $69.95 price tag. There was even a hint at a mightier 128 version in the future. *Writer's Workshop* and *GEOPublish* files can be printed by the tie-in BSW laser printing service for a nominal charge. Users can send files via modem through Q Link (a double tie-in) or by mail.

GEOPublish demands RAM expansion and a mouse for efficient use, unless you possess patience on a saintly level. All GEOS programs benefit from, at minimum, a second drive and either a mouse or lightpen for input. GEOS was developed with the mouse and the memory expansion in mind, but users had to wait over a year for Commodore to release these long-promised enhancements. Although RAM expansion for the 128 has been on the market for several months, the C64 module has just begun to appear and is frequently sold out as soon as it is unpacked. When the larger capacity 3½" disk drives are readily available, C64/128 storage and access will show another quantum leap.

While some users still find GEOS slow and complex, others have become devotees, addicted by its power and possibly by its part-jigsaw, part-magic trick character. A lively and creative sub-culture of GEOS users has been busily developing GEOS program enhancements, fixes, and accessories. This "People's GEOS" (or "folkloric rectification," as a friend calls it), is fueled by good old American ingenuity and connected electronically nationwide by Q Link.

Mystic Jim, in Denver, Colorado, devised a selfloader for GEOS workdisks, and after offering on Q Link to install it on users' disks found himself the recipient of dozens of clever user-created programs. He now issues these as shareware, using the proceeds to compensate the talented amateur programmers and to upgrade and expand. He finds he can barely supply requests using the services of his family and friends, and has recently initiated his own BBS for ordering and help messages. Mystic Jim plans more application disks and hardware, like a realtime clock kit to be sold at cost.

In Santa Barbara, California, Roger Ledbetter, a printer, was ready to upgrade to the "high price spread" when he purchased GEOS and found his beloved C64 could produce the same quality output as the much admired Macintosh, for thousands less. He now publishes and, with the help of his children, distributes, a very professional looking newsletter called *Geo World*, containing GEOS-related articles gathered from other users.

Among the devotees there have been some gentle complaints about Berkeley Softworks reluctant support for third party developers and the slightly elevated prices. Grittier remarks are heard on the GEOS copy protection scheme. It's necessary to key each new program to the master GEOS disk and always use it to load the program. Many feel that to have a whole library of programs and important files dependent on one disk is unnecessary, a waste of time, and risky. A protected operating system is seen as somewhat absurd. Several commercial copy programs will back up GEOS, but there are sad stories of blown master disks told on Q Link by the wholly innocent. Brian Dougherty, however, is adamant about this scheme. If user enthusiasm for Berkeley Softworks products continues at the present rate such arbitrary protection methods should ultimately prove unnecessary.

The demise of the C64 may have been exaggerated. However, with the power of program development like GEOS, the Commodore 64 is experiencing a revival unique in the computer industry, creating a growing feeling that "You ain't seen nothing yet." ☐

Resources

Berkeley Softworks
2150 Shattuck Avenue
Berkeley, CA 94704
(415) 644-0883

Mystic Jim
2388 Grape
Denver, CO 80207

Geo World
38 Santa Ynez Street
Santa Barbara, CA 93103

Quantum Link Information
800-392-8200

NOW THE TWAIN SHALL MEET!

At a time when the dollar crunch is squeezing so many school system budgets, Berkeley Softworks is developing a new educational networking system. Called GEONET it will allow the teacher using an IBM to control and monitor lower cost Commodore 64 workstations on the students desks running inexpensive GEOS application programs.

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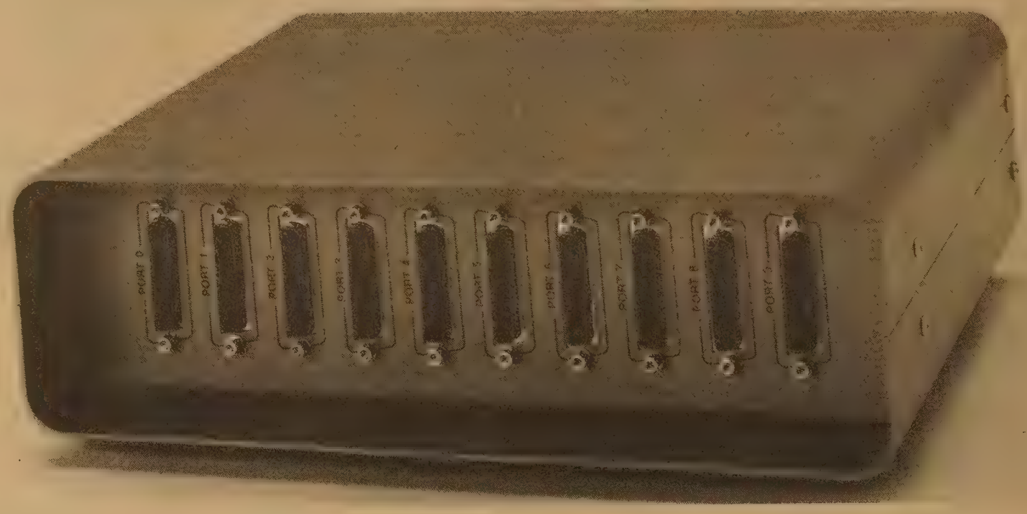
The PC Port Controller

CSI's David Azoff On The "Poor Man's LAN" And The Joys Of Forth

By Robert Beauchamp



David Azoff, president of Component Systems Inc., developed the PC Port Controller to serve one purpose: to make CSI's credit card reader more versatile. As its potential was discovered, however, the device met the needs of an ever-growing and ever more enthusiastic group of users, mostly for applications having nothing to do with credit cards.

From the outside, the Port Controller is a metal box with ten RS-232C or serial ports on one side. Its simple exterior belies the fact that it's a powerful switching and buffering device for all electronic equipment that uses an RS-232C interface—printers, buffers, modems, data input devices, light pens, plotters, other PCs, and practically anything else with a serial plug on it.

Applications are written in the Forth programming language, which is resident in the controller. The applications take data that comes into the device from one or more ports, manipulate it in the fashion the user desires and then send the data out again to any of the ports the user wishes.

The port controller has been put to a variety of tasks. It serves as a low cost LAN in law offices as well as a monitor for boilers in Chicago. It has proved so versatile that CSI has received inquiries from as far away as Australia.

How did CSI come to design the Port Controller?
We were building some other devices and manufacturing a credit card reader. We lost quite a few contracts and orders due to the fact that we did not have a device that could support more than one RS-232 device. So we had to initially start from scratch and develop a box that you could connect twelve RS-232 devices to. One thing led to another, and that's how this port controller came about.

The essence of a port controller is to expand the RS-232 capability of a PC, or any computer, that has an RS-232 device. We can hang printers on it. We can hang terminals on it, and we can actually hang PCs on it. You can have a number of PCs interconnected and able to communicate with one another.

We can mix and match Macintoshes and PCs. It's ideal for that. You might have three or four Macs and three or four PCs, and they can talk to one another. It's ideal for that situation.

You can transfer files, you can hang modems on it. It's basically what I would call a poor man's LAN. It doesn't have all of the features of a LAN, but it has enough to accommodate a lot of things that are out there in a very cost effective way.

Is the PC Port Controller likeliest to be used in a corporate environment, a small business or by individuals?
It can be used across the board. It's what I call a lunchbox—everybody has to have lunch. It's one of these devices that fits anyone's situation. It's like a tool, really, that anyone can utilize from the corporation down. I question whether a single individual should have one unless he has a need for all these ports.

Typically attorneys with multiple PCs would use it. The State of California, Levi Strauss, the *L.A. Times*—Lucky Stores uses it for quality control, people with hard disk media are using it. It has numerous applications for data collection—typically point-of-sale where you have cash registers, bar code readers and credit card readers all online. You can integrate all that into a workstation.

It also gives you a pre-processing capability before information gets to the computer, thereby taking all the overhead off the computer.

For example, you can have information coming in on a line. Once it gets in the port controller you flag it. As you go in you pre-process the information; the computer looks up the information that you ask for, pulls out the information, and then as it leaves the controller it drops the flag. You can do all this with the computer, but it's a waste of computer time.

What sort of applications is the controller being used for?
There is a company in Chicago that will be using it with boilers. They have six boilers on line. They want to collect data, date stamp it, and time stamp it in packets every ten minutes. They don't want to download the information every time it comes down from the boilers. They want to get the information, store it and de-queue it at the right time. It's an ideal application for our port controller.

Levi Strauss is using it on a conveyerized system to process their packaging. They log their data, such as addressing and weight, and then integrate it into a host computer. This way they know what time a package was weighed and where it's going to. This is the kind of information they need in an automated warehouse. Basically it's part of a big tracking system.

The *LA Times* is using it for getting data from worldwide wire services. They use our port controller to packet the data coming from all the wire services—they wrote routines to look at the headlines. A lot of the data comes in incomplete spurts. They did not want to use the computer time to retrieve the information, wait for the information and then track that information. They packet all the information once it gets together, and then de-queue it once the whole packet is full. They can actually disperse the information, according to the headline, to the right computer once the whole packet is in.

Once you write your applications, where do they reside?
They reside in the contoller itself. What you have is what we call an E-squared. Once you toggle your application in, it's no longer volatile. We have 192K of RAM on board. It offers some spooling and buffering.

The applications for the PC Port Controller have to be written in the Forth language. Have you met any resistance to this?
People are dubious when it comes to using Forth. Forth is a very strange animal in itself, and people think we're in left field when we say we have Forth implemented in the box as a resident software program. They look at you and say, "Where the hell are you coming from? Forth? Why didn't you use Pascal, or why didn't you use Fortran, or why haven't you used C?" These are very typical questions we get. Unfortunately a lot of customers aren't oriented in the computer field. Even the people in the computer field that I would consider well versed come out and say they don't understand the problem. As smart as they are, they don't understand the scope of what we have here.

What are they missing?
It's not what they're missing as much as it's what they don't know. People aren't aware of the fact that Forth is a very powerful language and it's self-contained. You don't have to have a disk operating system to implement a program. You don't need that with this box. It's a standalone device.

Forth resides in the Port Controller. It's actually a compiled language. Since you don't have to compile it, you can implement your applications as soon as you write them. You don't waste any time. Normally it might take you four hours to write a little routine and then test it and compile it. Here you can do it in ten minutes. It's self contained. You don't have to re-invent anything. You write it and you implement it.

It sells for $877, $87 a node. Which is very cost effective, really. We are pointing our marketing direction into very unusual situations, into areas such as automation and more specific areas where we find people are interested in utilizing it. (Component Systems Inc., 778-A Brannan Street, San Francisco, CA 94103. 415/861-1345.) ☐

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Palantir Software

Windowing Its Way To Success

By Serge Timacheff

After waiting a long seven years in the dugout, it's finally Palantir Software's turn at bat. After ages of CP/M and DOS word processing, followed by a short romance with the Macintosh, this small Houston publisher may have carved out a niche in the industry as a *Windows* pioneer.

"What we have done," says President Dennis Bilbe, "is taken a group of packages and used Microsoft *Windows* to integrate a full range of functions. In this way, we have a full office automation concept." Bilbe, a former Price Waterhouse MAS manager, took over Palantir shortly after its creation, driving it to its present status. The Palantir/*Windows* list will include about eight packages, with applications including a word processor, a spreadsheet, graphics, a graphics scanner, a scheduler, a spelling checker, a database/filing system, and a communications program. Two of the products, *Windows Filer* and *inTalk* (communications), are presently available nationwide.

The company's entire effort now focuses on *Windows*, and consequently relies upon Microsoft's success with the product. With about 850,000 *Windows* units sold after less than two years on the market, it is already considered a success. Palantir has worked closely for two years with Microsoft to produce a series of products under *Windows* that interact with each other, as well as with *Windows* products from other developers. The risk of moving the company totally in this direction may be well worth it.

Palantir has used the windowing concept to create a system with everything the office worker could need. Every product in the series can stand alone or integrate with any other, with data transferred between applications using Windows' dynamic data exchange system.

STANDARDIZATION AND INTEGRATION? WHO WOULD HAVE BELIEVED...

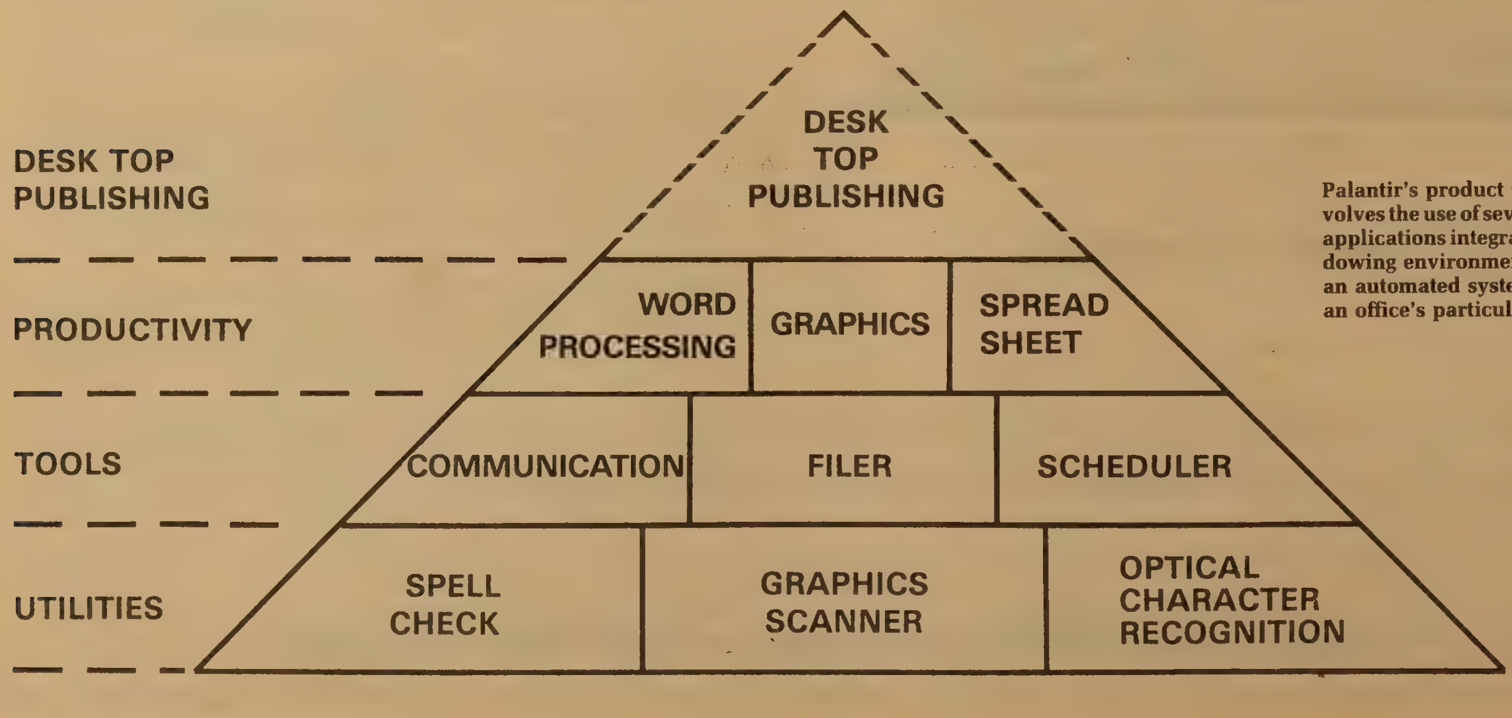
Windowing in general is nothing new. Simply, it allows access to one or more programs while immersed in another. In this way, the PC becomes a "work station," performing a variety of tasks simply and quickly. Using a mouse to point and click, *Windows*' multitasking capabilities let different programs run virtually simultaneously in active or inactive windows. Different programs can share files and execute parts of each other.

Palantir has used the windowing concept to create a system with everything the office worker could need. Every product in the series can stand alone or integrate with any other, with data transferred between applications using *Windows*' "DDE," or "dynamic data exchange" system. For example, Palantir's *Wintex Word Processor* can start MicroGrafix's *Windows Graph* package, passing data to it and creating graphs. DDE allows independent software developers to write programs that work harmoniously with anyone else's.

During the past 18 months, Microsoft has operated through a combination of targeted, strategic independent software developers to get an in-depth coverage of *Windows* and to stimulate product development. Microsoft Systems Marketing Director Russ Werner calls it "acting in an evangelical mode." He adds that "for the broad base of developers with an interest in *Windows*, we hold a series of seminars to give them exposure to the environment and training in it." Both of these methods serve to fulfill Microsoft's aggressive promotion policy, and the company now sells more than 12,000 *Windows* "software development kits" yearly. Werner perceives this as "a tremendous surge in interest from the development community as a result of the market size and the emergence of some key products." Additionally, IBM's recent endorsement of the *Windows* interface for Operating System/2 has helped greatly.

A NATURAL PROGRESSION FOR PALANTIR

Automation and product integration are concepts Palantir has pushed since its humble beginning in 1980. Palantir added an automated filing system and a spelling checker to its CP/M and DOS word processors, all programmed in C, the language of today's *Windows* products. Michael Griffin, Palantir's lead programmer in the early years, perceived C to be the language of the future, which



Palantir's product strategy involves the use of several specific applications integrated in a windowing environment to create an automated system that suits an office's particular needs.

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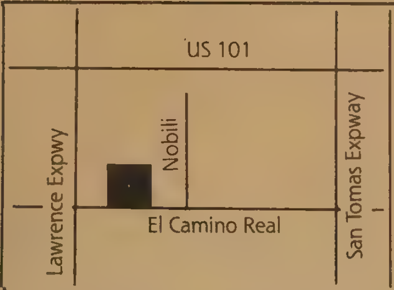

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ultimately contributed to his success. He had written *Magic Wand*, one of the most popular early word processors and the forerunner of *PeachText*. Griffin led Palantir through the "rough" years before finally signing with Compaq in Houston.

The *Word Processor, Filer*, and *Speller* combination became Palantir's *Office Series*. The three operated independently and together in a low-level form of software product integration, and *Word Processor* especially developed an almost cultish following worldwide. Producing Macintosh products was the company's first venture into a windowing atmosphere and continued its growing policy of becoming a software publisher instead of developer. It chose financial, communications, and educational products, hoping the Macintosh would quickly penetrate a variety of markets.

"We kind of guessed wrong on the accounting and educational," says Bilbe, "but the communications is an outstanding product, and what we did in the windowing environment was to migrate to *Windows*. We've approached windowing in at least three different ways. We've taken a Macintosh product, *inTalk*, and converted it to *Microsoft Windows*, so they essentially run the same way. We've taken *Windows Spell* and written it from scratch and, in reverse, we took it and brought it back down into DOS. The third way is that we've used the *Word Processor* and a spreadsheet written in UNIX and brought them to *Windows*."

Bilbe says the change occurred as a marketing decision after a careful review of everything happening in the software industry. "We decided that a windowing atmosphere would prevail. The faster the computers get, the more friendly the software has to be. Also, people have been trying for years to get a real office automation system put together. We've finally done it."

Palantir estimates a six month lead on other *Windows* developers. Although the company's still trying to secure proprietary names for some of the products, the software is basically ready to go. "We've taken products that are either pre-beta or beta ready," says Bilbe, "finish the marketing design, and work with the developer to get the product out on the street. I don't think any competition will roll out any sooner than the first quarter of next year. Even as it is, we're still the largest—next to Microsoft—publisher of *Windows* software. I don't think Lotus, Ashton-Tate, or any of the big ones will switch over now. They already have too much inertia, and they currently have enough to contend with. Eventually, they'll have to switch to the windowing environment, but they don't have to do it now."

Microsoft supports Palantir's publishing efforts by directing *Windows* developers to them. "We're all for Palantir," says Russ Werner, "and I think it's terrific. *PageMaker* probably kicked off the 'wave,' but Palantir is second in line as a key software vendor coming out with a major set of applications." Werner believes Palantir is ahead of other publishers in getting *Windows* applications to the user. "Overall, it's a strong position to be in, in a market where market share can be had. There's some value to being the first one in and being aggressive; just like the Mac, certainly it's a better place to be than 5000th in the pack." He added that *Windows* products are on the verge of deluging the market. "It's really amazing what's going on. The Mac took about two years for good applications to come out for it in a broad sense. We're almost at the two year mark for *Windows*, and by January of '88 and even this fall, some key applications will be out."

Palantir's Dennis Bilbe: "We decided that a windowing atmosphere would prevail. The faster the computers get, the more friendly the software has to be.

ANOTHER PALANTIR EDGE—THE INTERNATIONAL MARKET

Five of Palantir's new *Windows* products come from European developers, two from Switzerland and three from France. In the past, Palantir has attempted to provide its DOS and CP/M *Word Processor* to other countries, which established international connections other software firms have never developed. Even its unsuccessful Macintosh financial/accounting package was made by a software developer in New Zealand. According to Bilbe, "the international aspects of Palantir are an integral part of our business plan." With systems becoming increasingly standardized the world over, Palantir feels it is obtaining an edge over other US software publishers by addressing a world market. Currently, at least some of Palantir's products are available in Chinese, Korean, English, Japanese, Arabic, German, French, Spanish, and Russian. When all of the languages and sublanguages (such as Canadian French) are totaled, more than 42 languages are supported.

Bilbe plans to continue expanding international ties, and has now opened Palantir offices in Paris, London, and Seoul, in addition to the older Houston and Washington, D.C. locations. Permanent representatives work in Tokyo and Montreal. "Our programs from France, for example, are actually written in French. I had to have them translated into English here in the US because everything, message- and text-wise, is in separate resource files. All we have to do is translate them, avoiding having to recompile the whole program. All we really have to worry about is message and prompt files."

In the Orient, Palantir is working with the Japanese to get its *Windows* system operational. NEC has *Windows* in Japan, and Palantir now has a company there called System Soft that has agreed to market Japanese *Windows* products.

Palantir continues to accept programs for evaluation from developers. Bilbe's main acceptance constraints are that the software must conform to *Microsoft Windows* rules and it must have an office automation application. "It also has to be a program or an idea that's good worldwide. If it's only good for one specific country, then we're probably not interested."

Palantir's international plans in many ways parallel those of Microsoft. As much as 40% of Microsoft's focus is on the international market, while most similar companies limit their attention to 20% or less. The *Windows* device drivers, in particular, are well suited to international software creation and use, and Microsoft has built in international settings so that it becomes an easy, good development platform.

THE PRODUCTS

Most of the new Palantir products have been demonstrated at shows around the United States this summer, such as the Microsoft/Aldus Desktop Publishing shows in New York and Los Angeles. The major product release is scheduled to take place at COMDEX Fall, along with some new products the company won't reveal now. Palantir's primary task at these shows is to demonstrate how its communications package, *inTalk*, can transfer *PageMaker* files created either on the Macintosh or the IBM to one another.

inTalk is the only communications package that resides on both systems. Earlier this year, *inTalk* was used to transfer a 23K *Pagemaker* file from Stanford to Tokyo, which it did in about 4½ minutes. Palantir wants *inTalk* to become a viable alternative to the FAX. A terminal emulator, *inTalk* allows communications to mainframes, minis, or other micros, regardless of the system type. "As long as you can get it over the telephone, we can talk to it," says Bilbe. It also allows graphics downloading, like you get from such services as CompuServe.

Windows Filer, released the same day as Microsoft *Windows*, is a filing and reporting system allowing use of graphics created in any *Windows* paint/draw package. The Palantir graphics package will work well, and is comparable to *SuperPaint* on the Macintosh. Separate from the graphics is the scanner, which will allow the use of a Datacopy or Microtek scanning device to pull hardcopy graphics into a soft format.

The spreadsheet is similar to *SuperCalc* or *MultiPlan*, but rather different from *Lotus*. What's the advantage? "It windows. That's the major advantage right now. Everything is done in one environment—you don't have to switch out and back in," says Bilbe.

The word processor features compare with *Word*, and the speller has 65,000 words and uses algorithms in correction. Currently Palantir has the speller active in 11 different languages.

The scheduler/agenda package is a mini database allowing the user to keep track of all appointments past and future. It opens multiple files, giving instant representation of what must be done for a time period. It also schedules non-human events, such as billboards or commercials.

The only type of office-related product Palantir won't touch is desktop publishing, according to Bilbe. "We're leaving that to Aldus and Ventura. If you do a marketing triangle, desktop publishing is right there at the top. Under that is what I call productivity software, which includes products such as word processors, spreadsheets, and possibly graphics. Beneath those are tools, like communications and *Windows Filer*, and at the bottom are utilities like the speller, the scanner program, and others."

The products will sell independently for $200 to $500, except for the spelling checker, which sells for about $100, through normal retail channels.

A CHANCE AT LAST?

Palantir has worked since 1980 to be a major player in the software industry, and at long last it looks as though they may be in just the right position. A greater international focus is taking place, and the windowing concept is hitting the DOS environment hard.

To grow, companies must learn from their mistakes. A few years ago, Palantir's main goal was to convince users that the *Palantir Word Processor* was easier and more powerful than *WordStar*. Whether it was or not is a moot point, because they never overtook *WordStar*'s popularity, nor did anyone else. Palantir's biggest problems rose out of trying to wrestle a massive giant to the ground at the height of his success.

Now, however, Palantir's different ploy of working with a major producer such as Microsoft has generated tremendous support and recognition. Its timing is good, because no one has established themselves as the *Windows* market controller. For Palantir, this means its turn at bat just might knock the ball over the fence. (Palantir, 713/955-8880.)☐

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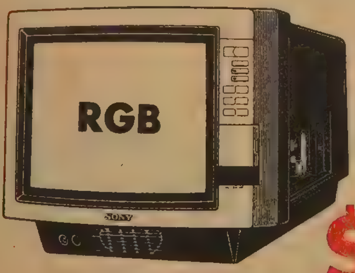

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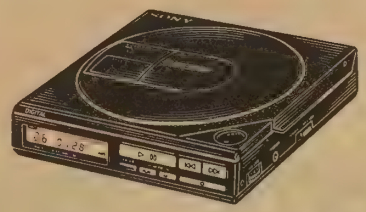

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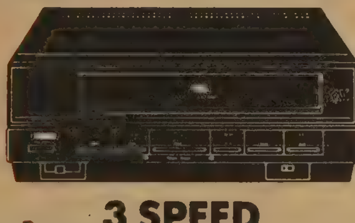

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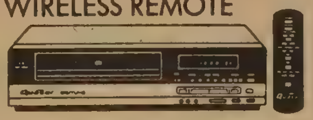

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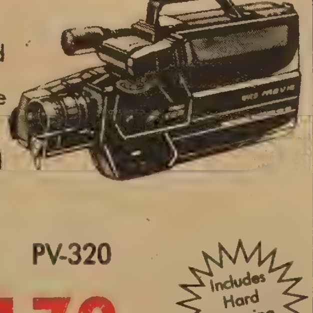

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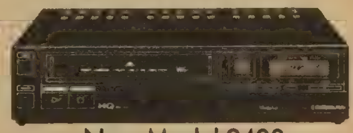

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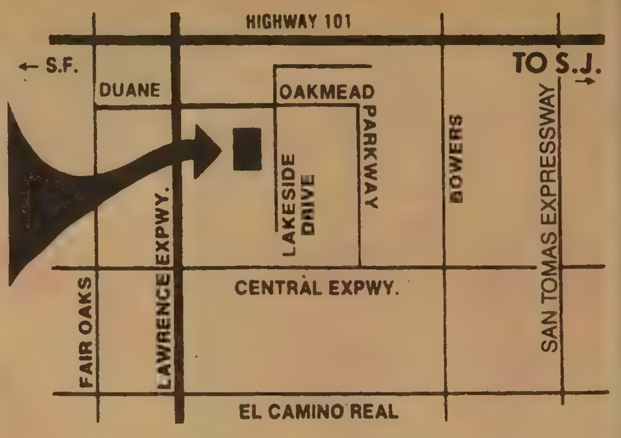

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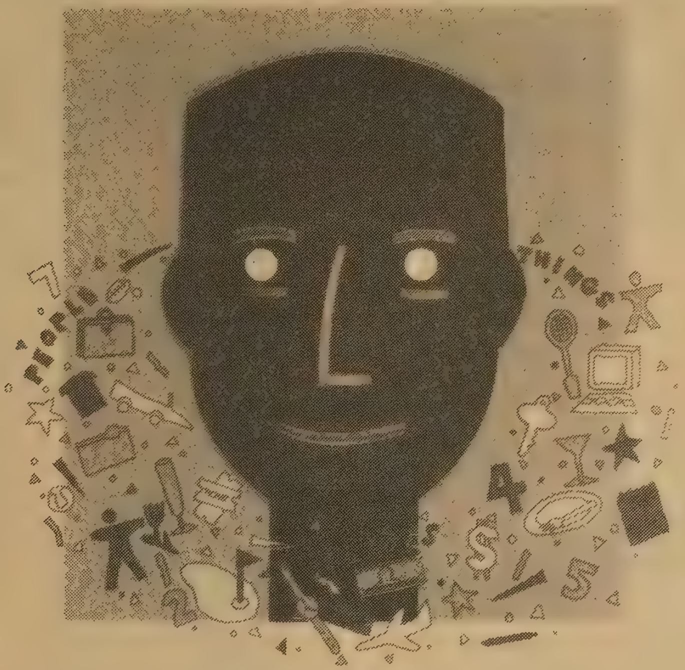

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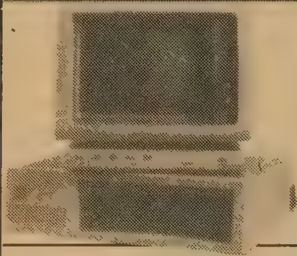

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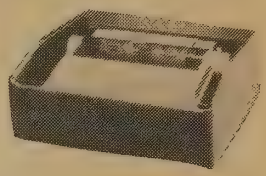

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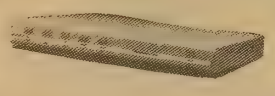

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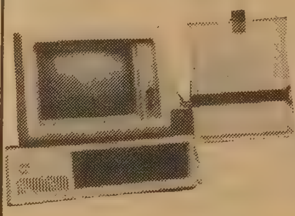

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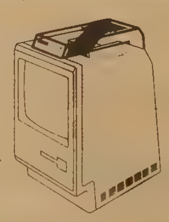

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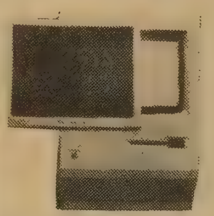

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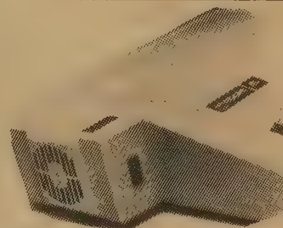

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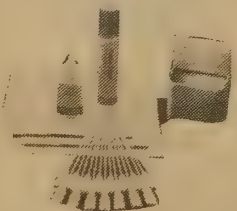

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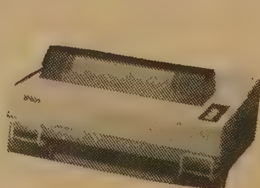

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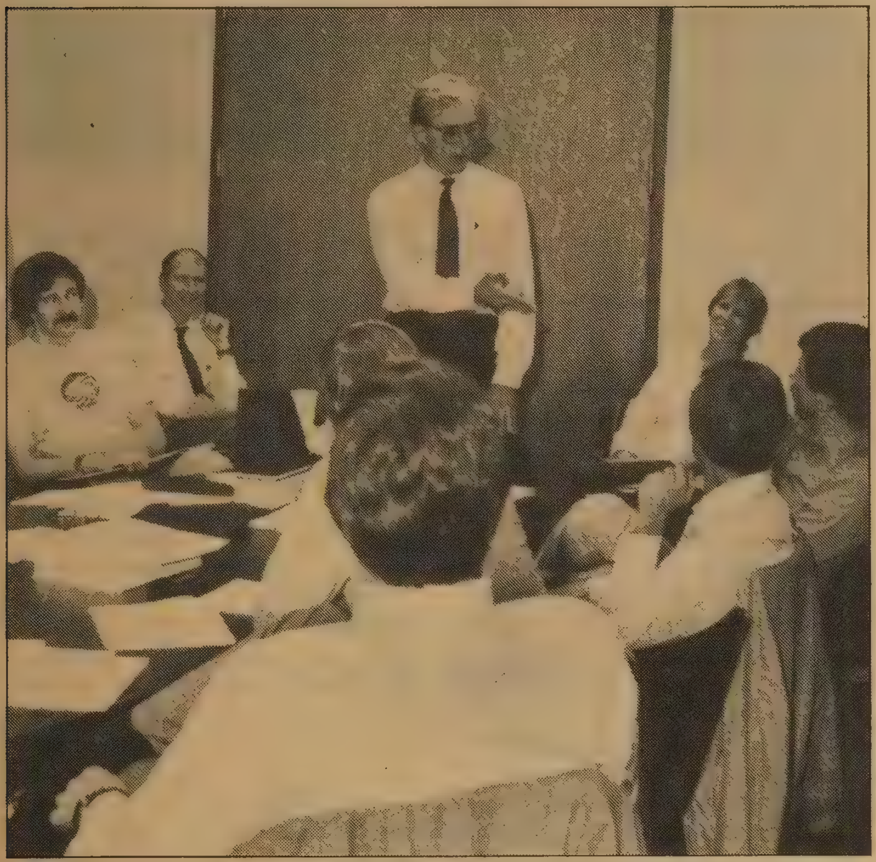
Helping Developers From Startup To Success

The Software Entrepreneurs' Forum

By Helmi Kobler



Ed Niehaus (center) offers advice at a meeting of SEF's Marketing SIG.

> ***It takes more than programming talent to make a successful company. Instead, a myriad of other factors are involved — good documentation, packaging, production, distribution, advertising, financing and legal advice.***

Today's software industry has come a long way from the garages and living rooms that bore it years ago. Once modest startups, companies such as Microsoft, Lotus and Ashton-Tate have developed into multi-million dollar corporations with great resources in management, marketing and production. But in a world dominated by these and other software mammoths, one wonders if the romantic notion of an innovative, enterprising individual starting his own company and succeeding is plausible any longer. A group of software entrepreneurs believes that it is, and have organized into the Software Entrepreneurs' Forum (SEF) to help each other compete and succeed in the industry.

SEF's philosophy is that it takes more than programming talent to make a successful company. Instead, a myriad of other factors are involved — good documentation, packaging, production, distribution, advertising, financing and legal advice. This was the realization of several software entrepreneurs who met in July, 1983 during a Bay Area seminar entitled "Marketing in the '80s" held by the Professional and Technical Consultants Association. The seminar dealt with developing and marketing software, and inspired a number of participants to found a group dedicated to investigating those and similar issues.

By October, 1983, the 14 founding members had formally established SEF and laid out the group's credo: to provide the software entrepreneur with the resources needed to successfully compete with larger, established companies.

Since then, the group's membership has grown from 14 to over 300. Based in Palo Alto, SEF holds several general and Special Interest Group meetings each month, and sponsors one-time seminars and workshops to address the issues a software entrepreneur is most likely to be concerned with. The group's general meetings, held on the third Thursday of each month in Palo Alto, have traditionally featured "big name" guest speakers or panels expounding on everything from industry trends and software development techniques to marketing strategies and legal issues.

SEF's speaker history reads like a roll call of industry celebrities, including journalist John Dvorak, Philippe Kahn of Borland International, Bill Joy of Sun Microsystems, Andy Hertzfeld of Radius, David Winer of Living Videotext, George Morrow of Morrow Designs, Trip Hawkins of Electronic Arts and Rob Campbell of Forethought.

Recent SEF meetings have seen Stewart Alsop, editor of the *P.C. Letter* and then West Coast editor of *PC Magazine*, speak on the "look and feel" copyright issue and how it would affect developers. Jean-Louis Gassee, Apple Computer's VP of Product Development, spoke on the company's Mac SE and II machines, and the new software he hoped they would encourage. A panel consisting of Paul Saffo of *Personal Computing*, David Needle of *Computer Currents*, and Tony Bove and Cheryl Rhodes of *Desktop Publishing: The Bove And Rhodes Report* discussed how small developers can get their products editorial coverage and how strong a link exists between editorial coverage and advertising.

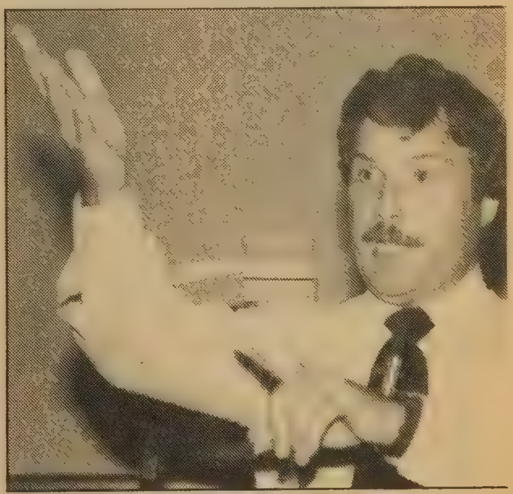


PHOTO: ED NIEHAUS

Rob Campbell, president of Forethought, addressed a recent meeting of SEF.

In addition to its general meetings, SEF currently sponsors Macintosh, IBM and Marketing Special Interest Groups with specific focuses. The Mac and IBM SIGs, for instance, have strong technical thrusts and provide an environment where developers can keep in touch with others in their field, and share various programming tricks and techniques to help each other avoid reinventing the proverbial wheel when designing products. The SIGs also concern themselves with less technical but machine-specific issues as well. For instance, a recent Mac SIG meeting featured Bill Campbell, president of Apple's spin-off software company Claris, speaking on Claris's new role in the Mac software community and the effects it might have on other developers.

SEF's Marketing SIG addresses members' interest in the various steps involved in selling software after code has been written. Says the SIG's chairman, Don Morrison, "It's a place to learn how to make those critical decisions that mean success or failure of a product in terms of its acceptance in the marketplace." In that pursuit, the Marketing SIG has investigated topics such as public relations strategies, alternative distribution channels, and site licensing of software. A recent meeting featured Brice Schuller, partner in the San Francisco advertising firm Vaughn & Schuller. Schuller, who's done advertising for the likes of Microsoft, Atari, Cordata, Mouse Systems and others, spoke on designing and placing small ads that sell, advising his audience on how to pick the publications whose readership is in the appropriate market, how to save money on artwork and photos, and how to write effective ad copy.

For thoroughly exploring specific entrepreneur issues, SEF sponsors a number of one-day seminars and workshops. One seminar dealt with the many legal issues facing software developers and publishers, such as copyright laws, contracts, warranties and disclaimers. Another recent seminar focused on software publishing, and featured a panel made up of publishers such as Gary Carlston, chairman of Brøderbund, James Levy, former president of Activision, and Heidi Roizen, president of T-Maker. The distinguished panel discussed the benefits and drawbacks an individual faces when marketing software through a publishing firm, what many publishers are looking for in a product, and how to go about negotiating the financial and licensing terms of a publishing relationship.

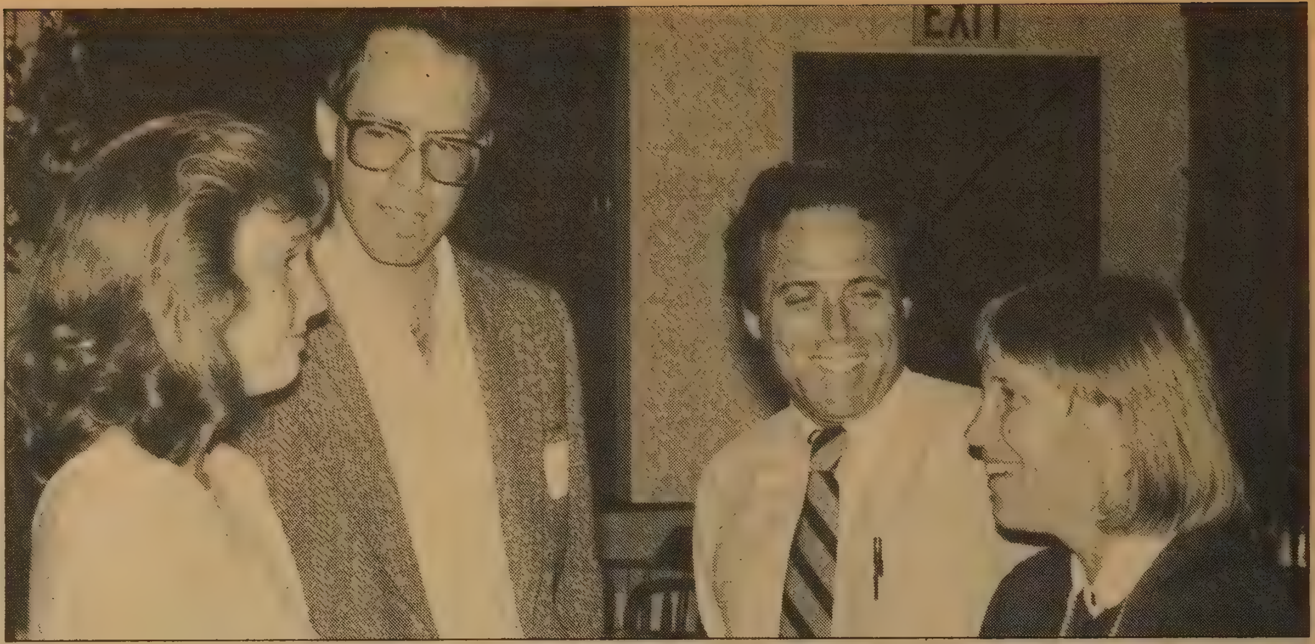


PHOTO: JACK STILES

The Software Entrepreneurs' Forum offers a chance to meet and work with others involved in software development. SEF president Nancy Crewdson (r) joins a discussion at a recent meeting.

Guy Kawasaki of Acius was a recent featured speaker.

Whether it's an SEF seminar, SIG or general meeting, though, all provide an atmosphere where members have an opportunity to meet industry leaders, share experiences, make contacts and perhaps establish business relationships. Informal conversations ranging from industry news to business advice abound at meetings, as well as the steady exchange of business cards. Visitors and new members are regularly asked to introduce themselves at general meetings, stating their profession and entrepreneurial aspirations, while job announcements are frequently made to the membership. SEF's monthly newsletter keeps members abreast of meeting and seminar highlights, and reports on new product releases and other significant news announced by members.

Michael Lunsford, founder and president of MacroPac International, is one entrepreneur who can testify to SEF's utility. Lunsford, who developed *101 Macros For Lotus 1-2-3* (and subsequent versions for *Symphony*, *Excel* and *SuperCalc*) is a textbook example of a software entrepreneur. Holding a bachelor's degree in English Literature, he was introduced to *Lotus 1-2-3* while working in an office. Recognizing a demand for generic Lotus macros that could be customized for specific tasks, he set out to develop *101 Macros*. He introduced the product, without packaging or a manual, at a local computer swap meet, and soon after placed an ad for it in *Lotus* magazine. *101 Macros* was well-received, but selling it eventually became a full-time job, resulting in Lunsford founding MacroPac in January of 1986. It was shortly after that when Lunsford joined SEF.

Lunsford found SEF a great resource in helping him deal with the responsibilities and decisions involved with running a startup software company. "SEF had a dramatic contribution to my overall success," he says. "It's a wonderful resource for making contacts, it's a wonderful place to get current information right from the horse's mouth, and it's a good way to get known by the developers' community."

An SEF seminar on direct mail marketing was especially helpful, says Lunsford, who, until recently, sold his software through mail order channels only. "It helped me in learning more about how to develop my ads, and how to develop my mail pieces. In fact, most of what I know about ads and mail pieces I learned from that seminar."

Bill Ray, founder and president of Apian Software, is another entrepreneur who has found SEF useful. Ray joined SEF early in 1986, before forming Apian and developing its *Decision Pad* software, a decision-making application aimed at office management types. Having been a member of SEF throughout the process of starting a company, developing a product and finally releasing it, Ray says of SEF, "It's invaluable. For me, it's been a place to listen and learn. When you're a small company you can't afford to make mistakes; you have to learn from others. And you can't learn everything from books."

Ray attributes to SEF his discovery of the importance of public relations to a startup. "My naive view was introduce a product and put out ads. But you have to start with PR — getting reviews written, press releases sent out — to build up your company's credibility and let people know about your product."

Had it not been for SEF, Ray says, Apian Software would probably have taken on a different form, either finding a publishing firm to market *Decision Pad* or recruiting a partner with marketing expertise. "With SEF around, though, I have a source of information to make progress without a publisher or other partner."

SEF can also benefit the established company or developer as well as the aspiring entrepreneur. The group's members are highly knowledgeable and experienced in their fields, and companies have found it useful to call upon the memberships' resources. When Sybex, a large publisher of computer books, was looking for someone to write a book on *Lotus 1-2-3*, it called SEF for referrals. As a result, two SEF members have signed a contract with Sybex to write the book.

David Winer, president of Living Videotext (which created and markets *MORE* and *Ready)* is looking for ideas from SEF. "I thought it was a good way to get some ideas, perhaps from other people," he says, recalling his early interest in the group. "My hope for the Software Entrepreneurs' Forum is that it can turn into a breeding ground for marketable ideas. That's where we [software publishers] come in because that's our business — to take ideas and dress them up and promote them and turn them into profitable businesses. I didn't join SEF until my company was well on its way...Now I'm sitting on the other side of the fence, and what I'm interested in is finding ideas that are commercially viable and products that can be sold. That's what I'm really looking to get from SEF."

SEF has become a resource of valuable information, instruction, and contacts to hundreds of developers, entrepreneurs and software publishers. Though it's geared to improving a small company's odds for success, SEF can serve just about any member of the software industry. SEF's annual membership dues are $75, and include a subscription to the group's monthly newsletter ($20 for the subscription alone, $35 with overseas postage). The group's general meetings are held on the third Thursday of each month at Harry's Hofbrau at the Palo Alto Municipal Golf Course Club House, 1875 Embarcadero Road, Palo Alto (exit 101 at Embarcadero, go East to Golf Course Airport Complex). Each meeting starts at 6:30 pm with a no-host bar, followed by dinner at 7 pm and the speaker's presentation at 8 pm. Call Barbara Cass, SEF's Executive Director, at (415) 854-7219, or send electronic mail to "SEF" on MCI Mail, for more information. ☐

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The Joys Of Paradox

By Birrell Walsh

PARADOX
PARADOX
2.0
Ansa

Because the program allows you to do things very quickly, it makes it possible to try out your ideas. If they don't work, you can change them a bit and try them again — right now.

In the several months I've been using *Paradox*, I've found that the best word to describe it is "facility." It means both ease and ability, and that's the combination in this remarkable product.

When you run *Paradox*, you find yourself facing a menu much like that of *Lotus 1-2-3*. The menu gives you access to the whole of *Paradox*'s abilities. You can take in data, view tables (as *Paradox* calls its databases), make reports, print, design forms, and "query" the tables without ever leaving the menu system.

Because each menu choice can be called (as in 1-2-3) by typing only the first initial of the word, you can traverse the menu system with a few keystrokes. Each stroke takes you down another layer in the menu tree. You soon remember that you rename tables with "TRT," and forget that it stands for {Tools} {Rename} {Table}".

Paradox owes much of its ease of use to its menu system. The lynchpin of its power is query-by-example. Query-by-example allows you to ask questions of a database (or several databases at once) by checking off fields on an on-screen form. You can link fields in different databases with "examples" — place-holders that mean "make this field in this database be the same as this other field in the second database."

We designed a *Paradox* application tracking donations to a local non-profit agency. The query allowed the agency's workers to retrieve donations and donor names from two different databases, and to summarize each person's giving history. The total number of keystrokes from an empty screen to the answer? Twenty-nine, including moving around on the screen to check the fields they wanted included. That's fewer keystrokes than are in this sentence.

Query-by-example permits complex searches of the database without programming. You simply put your conditions into the blank table-form that *Paradox* provides when you do a query. Want all the donations in 1986? Put "../../1986" into the date field in the gift table. To add a second condition (say, donations of more than $100), put ">100.00" in the Amount field. More complicated "and," "or," and wild-card conditions are also possible.

Paradox demonstrators emphasize the fact that the "answer" table *Paradox* gives you in response to a query is a real database in its own right. This means that you can use it as a base for further queries, rename it and keep it, and write reports based on it.

Query-by-example lets people start using *Paradox* for practical purposes right away. It is every bit as easy to get information out of a *Paradox* table as it is to put it in. You no longer have to call a programmer to examine data from several tables. *Paradox*'s publisher, the Ansa Corporation, likes to send liberal-arts graduates to shows to demonstrate the product. They often begin with the statement, "You know, I don't usually like computers — but this is so easy…" Then they do some query-by-example work on multiple tables, and the buyers line up.

This is not to abuse liberal-arts majors — I majored in Brazilian History myself. What it means is that people can start doing useful work on a database without the long apprenticeship that other databases demand. It also means that people can bypass the programming priesthood. Micros made computing hardware available to people without computer-science degrees. *Paradox* makes database software available to them in the same way. The excellent documentation is a delight and a more-than-adequate tutorial.

But if *Paradox* is this easy to use, is it powerful enough to be used for serious applications? Well, *Software Digest* has given it the highest rating for databases for two years in a row. There can be up to two billion records per table, each up to 4000 characters long. There is no limit to the number of simultaneously open databases. *Infoworld* tests (August 17, 1987) reported that all of *Paradox*'s power and convenience did not make it slower than other database products.

What impressed me was not the specs, but the rapid evolution that a user can go through. You start as a raw beginner, hesitantly designing

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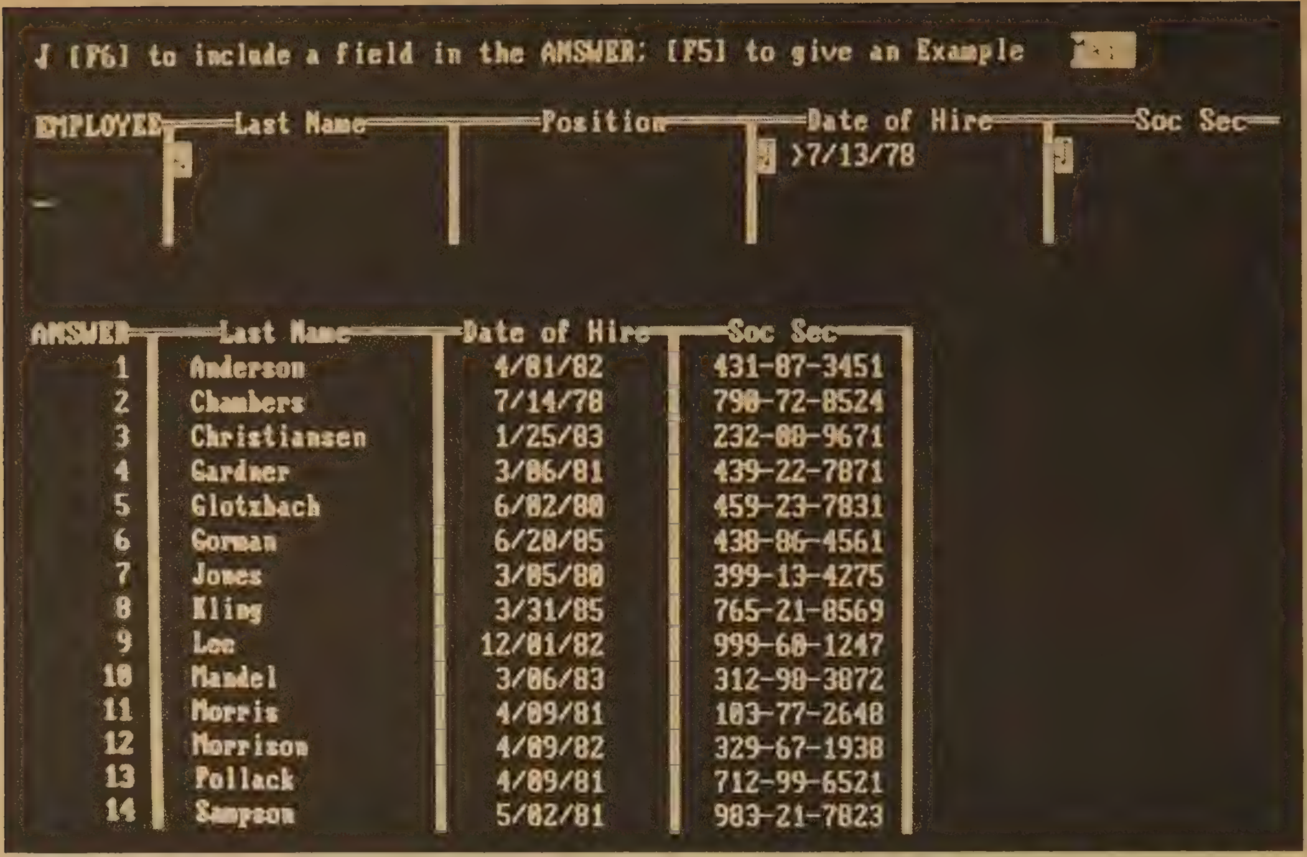

```
√ [F6] to include a field in the ANSWER; [F5] to give an Example

EMPLOYEE═╤═Last Name══════╤═══Position═════╤══Date of Hire═══╤═══Soc Sec═
         │√              │                │√ >7/13/78      │√
─        │               │                │                │

ANSWER═╤═══Last Name═══╤═Date of Hire═╤═══Soc Sec═══╗
     1 │ Anderson      │   4/01/82    │ 431-07-3451 ║
     2 │ Chambers      │   7/14/78    │ 790-72-8524 ║
     3 │ Christiansen  │   1/25/83    │ 232-00-9671 ║
     4 │ Gardner       │   3/06/81    │ 439-22-7871 ║
     5 │ Glotzbach     │   6/02/80    │ 459-23-7831 ║
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     7 │ Jones         │   3/05/80    │ 399-13-4275 ║
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    13 │ Pollack       │   4/09/81    │ 712-99-6521 ║
    14 │ Sampson       │   5/02/81    │ 983-21-7823 ║
```

Paradox lets users query and perform mathematical calculations on data by checking fields and selecting rows on a query form. The information appears in the answer table. Here, the user is looking for all employees hired after July 13, 1978.

your first database. A half hour later you are retrieving data with query-by-example. In another hour, you can show someone else the basics. This is a very practical, usable kind of power.

Keeping What Works

Paradox claims that it allows you to do most of your database work without programming. To a large degree that is true. The menu that you see when you start *Paradox* branches and rebranches to most of the functions that you might want to use. But you will find that you want to make some kind of record of often-used sequences of commands. *Paradox* offers what it calls "scripts," an odd and finally appealing combination of keystroke macros and programming language.

When you go to "scripts" on the main menu, you find the choice "BeginRecord." If you choose it, the screen will clear and you are looking at the main menu again. Every keystroke and choice you make will be recorded until you again choose "Scripts" and take "EndRecord." The script you have made will have a name, and by playing that script, you can make that entire sequence of keystrokes run again. These macros can be edited with *Paradox*'s script editor. You can record queries-by-example as well as macros. The query which you have fine-tuned can be re-used by playing it as a script.

Finally, you can write programs in *Paradox*. The *Paradox* Applications Language (PAL), which is provided with the database program, is a full-featured database language. It is easier to use than other languages I have used to manipulate data.

The odd — and, in the end, pleasant — feature of scripts is that you can combine all three kinds of scripts into one. Because you can read one script into another, you can build scripts in modules and incorporate them into one master-script. The various scripts might be macros, saved queries, sections written in PAL, or any combination of these.

The Unobtrusive Servant

When you ask to view a table or use a script, *Paradox* asks what table or script you want. If you just hit return, *Paradox* shows you a list of the available tables or scripts. If you are viewing a table and want to edit it, the "edit" mode is only one key away. If you are viewing it as a table (in which records are rows, and fields are columns) and you want to see it on a "form" — again the command is one keystroke. These small touches are signs that *Paradox* was designed by users, for users. "God is in the details," as my parochial schoolteacher said.

Paradox was designed to use artificial intelligence. It uses it unobtrusively, to optimize the speed of your operations. It investigates the amount of available memory you have, and it uses it all. *Paradox* makes temporary files to do tasks and then erases them when it is done.

Index files are one example. An index file is like a card file for books. The books may be stored in any order — say, the order in which they were bought. The index file might keep the names of those books in alphabetical order by author. You can look up "Hemingway," and the card-file tells you where on the shelf to find it. An index file does the same thing for the records in your database. If the index is for records in the alphabetical order of last names, for instance, it might record that record #498 is the first in alphabetical order (Mr. Aaronsen, perhaps). Next is #725 (Mr. Abushenep), and so on. *Paradox* makes index files whenever it calculates that making them would speed up the job you have given it. It makes them and keeps them in memory if there is room, or puts them on your hard disk. When the job is done, it erases them. If you have not used another database program, you might never know what *Paradox* is doing quietly in the background.

The *Paradox* report system is odd-looking but extremely effective. If you want your report to be "tabular" — a set of rows of data broken into subsections and summarized — *Paradox* can very quickly produce a tabular report that will group data on different fields. You can summarize and calculate subtotals and various other summary aspects (like "region" from the ZIP code).

Paradox also supports freeform reports. These allow you to do mailmerge from within *Paradox*, without the use of an external word processor. In the report section of the menu tree, options go all the way down to suppressing leading and trailing blanks, and whole blank lines. It is another case of Ansa's general philosophy — a database without programming.

Big Bells And Loud Whistles

In 1987, *Paradox* introduced its new network system, which allows an unlimited number of users to edit and use the same database. Locked records keep users from fouling each other's work, but do not prevent editing both earlier and later records. *Paradox* even tells you who is using the record.

Because each user gets all the features of the single-user version of *Paradox*, the result is more than the usual center-periphery system. Anybody in the system can be doing the kind of high-level database research that has customarily been done in batch jobs at night. You have a database with truly distributed power. If you wish, you can limit access to tables and scripts with six levels of permission, from full rights to no access. Then *Paradox* functions like a center-periphery system. And the network administrator can modify the system as he or she sees fit, at any time.

Paradox comes with the (free) Paradox Personal Programmer — an applications generator, menu-driven like *Paradox* itself. With the Personal Programmer, you can design complete applications from the top down, without programming, by using the menus to create menus for your application and actions for those menu-choices to call. Those applications can be very restricted (say, data entry only) or they can include full-scale Paradox abilities for the user.

I don't understand how Ansa can afford to do it, but they are willing for you to distribute up to 250 copies of your application to others who do not own Paradox. They will provide you with a copy of Paradox Runtime in return for a completed license agreement and the princely sum of Nine Dollars and Ninety-Five Cents. You can quite legally have 250 people running your developed application for about three dollars per head, including your cost in purchasing *Paradox* in the first place.

Is this program perfect? No. It's expensive. The menu structure is sometimes obscure. Query-by-example is usually fast and easy to understand, but some questions are difficult to put in the query-by-example format. *Paradox* is not very visually attractive. There are no graphics whatsoever. It's not exactly ugly, but you would find a better-looking product on the Macintosh and (likely) in upcoming products for Microsoft *Windows*. The rumor is that Borland, the new owner of Ansa, is planning just such a *Windows* version of *Paradox*.

But *Paradox* is already very, very good. Its quick turn-around time for data is exactly the quick turn-around time that word processors gave to text. Because the program allows you to do things very quickly, it makes it possible to try out your ideas. If they don't work, you can change them a bit and try them again — right now. *Paradox* takes serious database operation out of the hands of the programming priesthood, and puts it into the hands of everyone. That means that training costs are lower. *Paradox* is quite a product, worth every penny if you have serious work to do. (Ansa Corporation, 1301 Shoreway Road, Belmont CA 94002, 415/595-4469.) ☐

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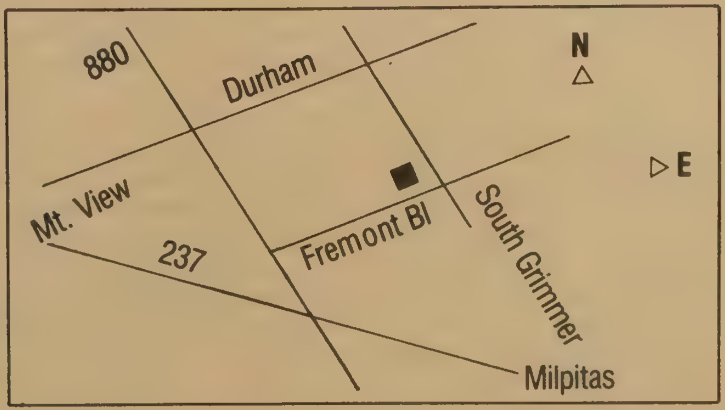

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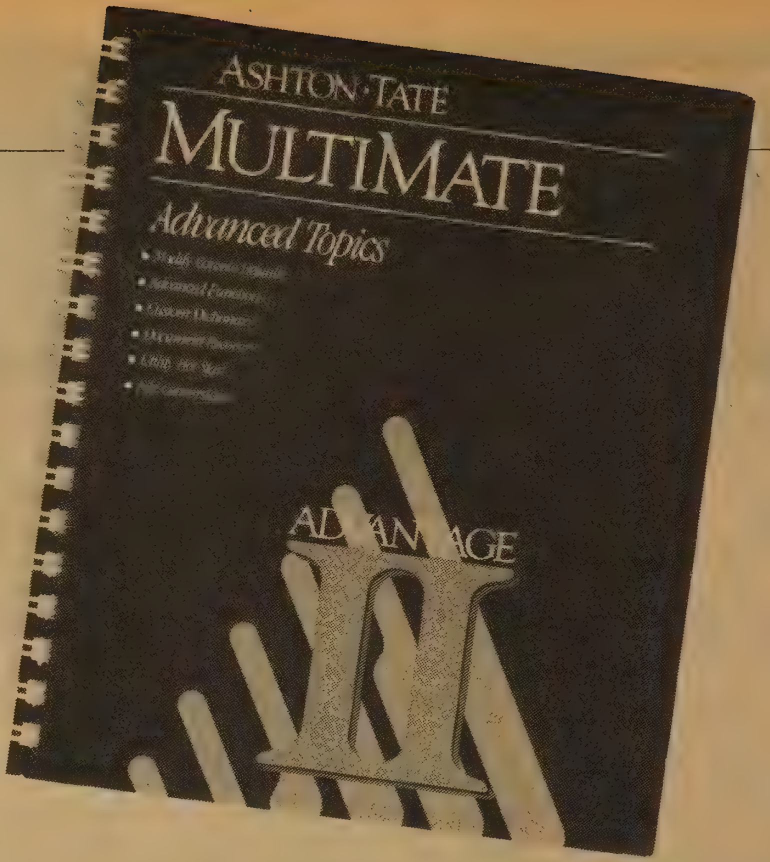

MultiMate Advantage II

A MultiMate User Looks At The New Version Of An Old Favorite

By Robert Beauchamp

MultiMate is one of the oldest and most popular office word processors. And if there is one rule a person responsible for purchasing an office word processor should remember, it is this: don't get between people who do word processing and their favorite software package. It can be tempting, sure. Just walk into a software store and see the latest technology with all the snazzy features. Your head spins around and your eyes bulge as you goggle at that new program. Fantasies of increased productivity flash in your head.

It's enticing and seductive in one of those places. But remember, you have a family at home. A family of employees who have spent a lot of time, effort and frustration learning the *last* massive word processor you bought. And chances are that for all the deficiencies that application may have, they love it as their own.

This kind of dedication to a single program was evidenced at the Ashton-Tate/*MultiMate* seminar during the latest Egghead Software show in Santa Clara. The faithful were gathered in a back room to learn about the newest incarnation of their program.

Amid a flurry of free jerseys, pens and coffee mugs Ashton-Tate was getting the word across that the old *MultiMate* had been updated to include all the hot new features found in the latest and greatest word processors. But the best news for users was that if you already knew *MultiMate*, you didn't have to change any of your old habits. All the old keystroke commands remained the same —a big hit with the crowd to be sure.

The best news for the office manager is that an update to the new version, dubbed *MultiMate Advantage II*, from any version of *MultiMate*, no matter how old, only costs $100. And even better news is that volume discounts are available.

So if your office already uses *MultiMate* in some form or another, you should consider the update offer from Ashton-Tate. Not only will you get a brand new package just like you would find in the software store, but you'll also keep your employees from grumbling for the next two years.

What's New

Most of the new changes in *MultiMate* were motivated by suggestions from loyal users. Hence they solve many of the problems that users had with the old program. Ashton-Tate also learned a lesson from the Macintosh world: *MultiMate* now includes pull down menus.

MultiMate has always been a professional word processor. It was designed for office use and still performs office tasks such as business letters, form letters and mail merge best of all. If it found its way into homes, it was most likely used by those same people who used it in the workplace.

In our own experience, the original *MultiMate* took days to learn and weeks more to get a real working grasp of the program. Years later, features would finally be discovered and utilized. You simply had to have the time only a professional could devote to learning to work the thing.

MultiMate Advantage II has made an attempt to cut down on the learning curve by combining menus and a "building block" approach to its documentation. Upon sitting down the first time and using a few simple commands, a person can create a document and print it. *MultiMate* then teaches the user such functions as footnoting, cutting and pasting text, and how to make mailing labels.

For the more advanced user, the gamut of features runs from spell checking a document with the 110,000 word dictionary to importing and converting ASCII and *dBASE* files.

The main difference, however, from the old *MultiMate* is that all you have to do to learn these features is run through the menus and follow the instructions provided on the screen. Where once users had to dig through mounds of documentation and memorize keystroke combinations, now all they have to do is push a few buttons and fill in a file name here or there. You can easily learn and experiment with the vast majority of *Advantage II*'s features.

Another advantage to pull down menus is that a user is more likely to employ these advanced functions in everyday practice, since they are so easy to access. The menus are also convenient in that they do not require a mouse; thus there is no added hardware expense, and speedy hands used to keying everything remain on the keyboard.

Advantage II also provides such aids as a keyboard template, adhesive labels that can be peeled off and placed directly on the keys, and a quick reference card that lists all the commands and their corresponding keystrokes.

One regret is that the keystroke commands do not appear next to the commands on the pull down menu as they do on the Macintosh. This would have gone a long way toward teaching users the faster and more efficient keystroke combinations.

System Requirements And Installation

In order to get acceptable performance from this program, however, you really must have a hard disk drive. (We used *MultiMate Advantage II* on a Club AT 286 with a 20MB hard disk. The Club AT, while not 100% IBM compatible, had no difficulty supporting the program.) *MultiMate Advantage II* comes with a whopping *eleven* 5-1/4" floppy disks. The 3-1/2" disks for IBM's PS/2 model computers cuts this number down to six, but the thought of all that disk swapping makes the mind reel. It is also necessary to have 384K of free RAM in order to use *Advantage II*. When they say professional, they mean it.

Installation is straightforward and should go well for anyone acquainted with DOS functions. The documentation describes the procedure step by step and doesn't leave out a single keystroke. Just follow the instructions and you'll be able to get this beast into its cage.

Once on the hard disk the lion turns into a lamb. *MultiMate* offers three main levels of menus. The first offers you a choice between the actual word processor and the advanced utilities menus. The word processor menu offers you the choices of editing, creating and printing documents. Inside the actual document editor most commands are on menus as well. You soon find yourself breezing through the menus from cutting and pasting text, to copying files, to converting files to ASCII, to accessing DOS commands — even to accessing other programs while in *MultiMate*.

Improvements

One of the major complaints about the old *MultiMate* was that it was a page-oriented rather than a document-oriented system. This meant that when you were scrolling you could not see both the bottom of one page and the top of another at the same time. There was also a pause when the user went from one page to the next. This could get frustrating when you were trying to correct a line of text that carried over from one page to another.

In keeping with the rest of *Advantage II*, users can still use a page-oriented system if they want to. However, it now offers a form of document orientation as well. This allows fast and easy scrolling in larger documents.

Another aspect of *MultiMate* that some people were annoyed with was the presence of all kinds of symbols

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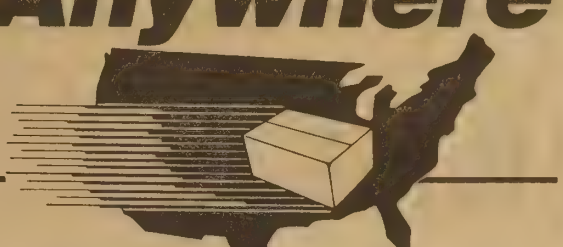

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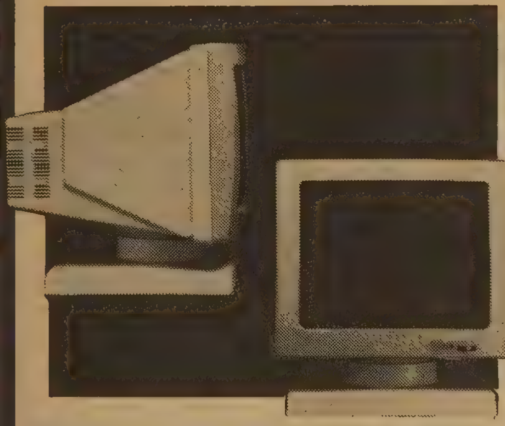

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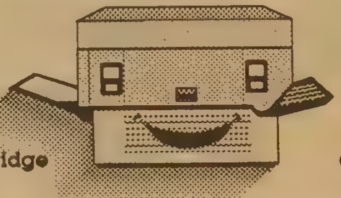

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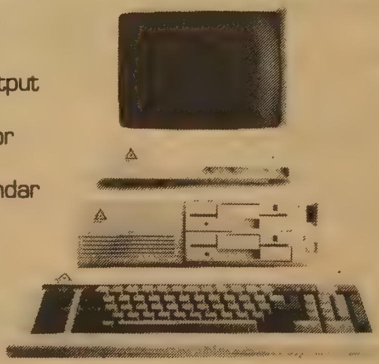

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***MultiMate Advantage II* is truly a professional word processor. Now, however, you don't need to be a professional word processor to get the most out of it.**

and signs on the screen indicating indents, tabs, centering and returns. This often led to a cluttered screen that was certainly not WYSIWYG. *Advantage II* offers a preview function that strips away all these symbols and lets the user see how the page will look when printed.

Advantage II offers a number of other impressive features as well. One of our favorites is the alternate keyboard function. This option allows you to choose from five keyboards that create letters for Romance languages, Germanic languages, math symbols and graphic symbols such as paragraph signs and, for the lawyers, section signs.

The automatic footnoting command will be a lifesaver to anyone in the academic community. The user simply chooses the footnote command and a new document appears. Here the footnote is written. Then the user goes back to the original document where the footnote is marked in the text by a musical note symbol. When the document is printed the footnotes appear at the bottom of the page numbered and in order.

Advantage II will also print your text in columns. The user can determine the number and the width of the columns and have them "snake" up and down the page.

Because *MultiMate* is a product of Ashton-Tate, users can easily merge *dBASE* files into their documents. This makes generating reports more convenient. *Advantage II* also provides file conversion formats for *VisiCalc*, *Lotus 1-2-3* and other spreadsheets.

Although any word processor worth its salt will have a good spell checker, *MultiMate*'s is truly impressive. The 110,000 word Proximity/Merriam Webster dictionary includes specialized medical and legal terminology, and can be customized by the user. The electronic thesaurus has over 40,000 root words and 470,000 synonyms.

Two features that Ashton-Tate emphasizes in its literature are hot start and hot print. Hot start allows the user to go directly from DOS into a *MultiMate* document by typing in WP, pressing the space bar and then typing in the name of the document. Hot print allows the user to print a one page document just by pressing Ctrl PrtSc. Since you have to remember the exact name of the file you're working on for hot start, and because you can only print one page and no footnotes with hot print, we didn't find much use for these functions.

MultiMate Advantage II enters the desktop publishing age by supporting laser printers. While the old *MultiMate* could support laser printers in a limited way, it is now able to incorporate laser printer fonts.

One of the more interesting additions to the new *MultiMate* is the presence of On-File. On-File is in essence a mini database composed of "index cards." Users can put information such as addresses and phone numbers on these cards and then organize them into rolodexes and mailing lists. The information is limited to what you can fit on a 3"x5" card. This may be, however, all the database many people will need.

MultiMate Advantage II is priced at $565 for the 5-1/4" disk version and $595 for the Premium Pack version which includes both 3-1/2" disks and 5-1/4" disks. For users of the Premium Pack who would like to take *MultiMate* home with them after work, Ashton-Tate is offering a "Personal Use Extension" that allows registered users personal use of the software on another computer at no extra price. The extension does not cover using two computers at one time or letting anyone else use the software on a second machine.

MultiMate Advantage II is truly a professional word processor. Now, however, you don't need to be a professional word processor to get the most out of it. This is good news for those who are in the market for a powerful word processor but don't have a lot of time to learn one.

If you already have *MultiMate* and are frustrated by some of its limitations, then you should seriously consider an upgrade. It's like getting a brand new program for $100. And the best part is, you already know how to use it!

If you're in charge of buying a word processor for the office that already has *MultiMate* the choice is clear. Do your "family" a favor. Stop being tempted by those flashy applications. Your employees are faithful and you should be too. (Ashton-Tate 20101 Hamilton Avenue, Torrance, CA 90502-1319. (213) 329-8000. Telex: 669984 ASHT TATE LSA. For information on upgrades or receiving 3-1/2" disks call 1-800- 367-8126.) ☐

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BRIEF
A Revolutionary Editor For The PC

By John Cowan

Every once in a while a program comes along which so far surpasses users' expectations that it may fairly be called revolutionary. *WordStar* was one such program; it provided a seemingly endless succession of features. Months after beginning to use it, I was still discovering new capabilities, sometimes by accident. For many PC users, *WordStar* revolutionized the process of getting ideas onto paper. In the spreadsheet realm, *VisiCalc* and *Lotus 1-2-3* carried the same cachet.

BRIEF, developed by UnderWare, Inc. and published by Solution Systems, is another such revolutionary program. *BRIEF* is a powerful, multiple file, windowing text editor. It provides, of course, all of the standard features of an editor: text entry, screen edit, saving of text files to disk, finding and replacing, text move and text copy, etc. What makes *BRIEF* special is the setting within which these ordinary capabilities are provided, with such features as multiple file editing, the ability to call MS-DOS programs, including compilers and assemblers, from within *BRIEF* itself, a macro language for extending *BRIEF*'s capabilities, and powerful search and translate commands. A comprehensive undo facility, allowing many previous keystrokes to be undone, adds icing to the cake.

> **BRIEF is able to edit concurrently on all specified files. The first file appears on the screen and may be actively edited. A single, repeatable key command activates successive files in round robin fashion.**

These capabilities make it possible to use *BRIEF* with a variety of programming language compilers, in a manner similar to *Turbo Pascal*. That is, programs can be compiled in response to a single keystroke, without ever leaving the editor. If errors are found by the compiler, *BRIEF* resumes with the cursor positioned at the line containing the error. In terms of convenience and time economy, this approach far surpasses the old method of running the editor, running the compiler, getting a listing, redlining the listing and repeating the cycle, ad nauseam.

BRIEF is not a word processor. It has only a rudimentary word-wrap capability and almost no output formatting commands. Its utility is inherent in its powerful, multi-file text moving, searching and replacing capabilities, as well as in the auto-compile facility mentioned above. Its most appropriate user community would be software system developers—programmers who develop or maintain large programs with many separate modules and inter-module references. For these PC users, *BRIEF* can fundamentally improve the process of software development. It can also, however, be a real help to anyone who has numerous large files of text data to maintain, such as address lists, data base input or DOS batch processing command files.

BRIEF is a screen editor as opposed to a command driven editor. In operation, it displays a screenful of text. Data may be entered anywhere on the screen by positioning the cursor and typing. Insert and overwrite modes are provided. Displaying, searching, translating, moving and deleting text are accomplished by using designated keys or key combinations, usually a letter, number or function in conjunction with the Alt Key. For example, key commands cause a block of text to be highlighted or "selected." Other commands allow the selected block to be copied or moved to a special buffer (not visible on the screen) called the scrap. The cursor may be repositioned and the contents of the scrap inserted at the new position. The scrap is the principal means of moving, copying or deleting blocks of text. In this regard and in the appearance of its screen, *BRIEF* somewhat resembles Microsoft *Word.*

FEATURES

Let's look at some of the features which, taken together, place *BRIEF* at the head of the PC editor pack. Upon initiating *BRIEF,* one or several file names may be specified. It is also possible to specify a set of file names, such as "*.PAS" or "CITIES.*". *BRIEF* is able to edit concurrently on all specified files. The first file appears on the screen and may be actively edited. A single, repeatable key command activates successive files in round robin fashion. Other key commands save the active file on disk or terminate editing of it.

BRIEF provides the ability to divide the CRT screen into a number of non-overlapping windows. The initial full-screen window may be divided in two, either horizontally or vertically. The currently displayed file is re-displayed equivalently in both windows. Each of the two new windows may in turn be divided as

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desired, and the resulting windows further divided. The number of windows is limited only by the ability of an 80 x 25 character screen to display data coherently. This technique is called tiling. Tiled windows do not overlap each other; *BRIEF* reserves overlapping windows for non-editing functions such as help screens.

The various windows may display the same portion of the same file, different portions of the same file or different files. Active editing takes place in only one window at a time, the one in which the cursor is displayed. A single key command moves the cursor from window to window. If other windows display the data which is being actively edited, they are changed in step as the the display changes in the active window.

BRIEF provides a powerful macro language for customizing and extending its features. Programs written and compiled in this language become "part of" *BRIEF* in the truest sense of the word. Many of *BRIEF's* standard functions are implemented in its macro language. A temporary copy of MS-DOS may be activated from the keyboard while *BRIEF* is running. After completing the desired DOS operations, typing EXIT causes *BRIEF* to be resumed at the point where DOS was called. Alternatively, DOS programs may be activated from the keyboard or from within *BRIEF* macros.

BRIEF's undo feature is astounding in its scope and power. Undoing is not limited to deleting commands —essentially, any keystroke may be undone. The number of previous keystrokes which can be undone is limited to 300 or fewer, depending upon available memory. Having the ability to undo the mistaken deletion of a whole page of valuable information is very reassuring.

BRIEF runs on IBM PCs and PC compatibles. It requires MS-DOS 2.0 or later versions, 192K bytes of memory and one double-sided disk drive. Performance is satisfactory using this configuration; however, additional memory as well as a hard disk speed things up considerably.

Documentation is satisfactory. Most of the information required to learn and utilize *BRIEF*, including a tutorial and a language description for the macro language, is presented in an understandable fashion. There is, however, precious little information on how to use the macro language. The documentation, while generally well organized, seems like it could use a bit more polishing.

UnderWare operates a bulletin board for answering users' questions and exchanging information about *BRIEF*. One of *BRIEF's* implementors, Dave Nanian, responds to questions promptly. The bulletin board is very actively utilized. Its best feature is a library of macros, supplied mostly by users, which enhance *BRIEF's* capabilities. For example, macros are available which append highlighted data on the screen to the data already in the scrap. Other macros implement multi-stroke Home and End key response; i.e., pressing Home once takes the cursor to the left of the screen, a second time in succession takes it to the top of the screen and a third takes it to the top of the file. Still other macros reconfigure the keyboard so that it responds in a manner similar to *WordStar*.

CONCLUSIONS

I am an unabashed fan of *BRIEF*, for the simple reason that it has made my work as a systems analyst more productive, convenient and comfortable. As with all programs, however, there are some things which could be improved. In the case of *BRIEF*, the most important is the macro language. The good news is that the macro language exists; the bad news is that it's practically impossible to program. It resembles a cross between C and the dBASE II program language, and displays the worst features of both. Even the developers acknowledge that its learning curve is a wall. They promise improvements in future releases. In the meantime, inexperienced users will have to settle for the standard macros or those available through the bulletin board, leaving customizing to ambitious hackers. This means that the internal compilation capability mentioned above is limited to C, the *BRIEF* macro language and several other languages for which macros are available on the bulletin board.

I also found the standard key assignments to be unfamiliar and somewhat irritating. Experience and slight changes to the key assignment macros, however, rectified the problem. Having the ability to change the keyboard to suit my taste has convinced me that every serious computer program requiring heavy console use should allow its keyboard to be reconfigured by the user.

In summary, I have found *BRIEF* to be a powerful, easy to use information handling tool. As with *WordStar*, after months of use I am still finding new and interesting features. It will require real imagination and a possible change in scope to make *BRIEF* substantially better than it is now. However, its developers promise further improvements, and I'm personally hoping they will turn their attention toward providing a full word processor with *BRIEF's* powerful multiple file data manipulation capabilities.

(Note: version 2.0 of *BRIEF* has just been released. The new version provides added speed, flexibility, and convenience rather than significant new features. Documentation has been completely rewritten and expanded, a welcome move which may remedy the deficiencies in the original documentation package. Price remains the same at $195. *BRIEF* is available from Solution Systems, 541 Main St. Suite 410, South Weymouth, MA 02190, 617/337-6963.) ☐

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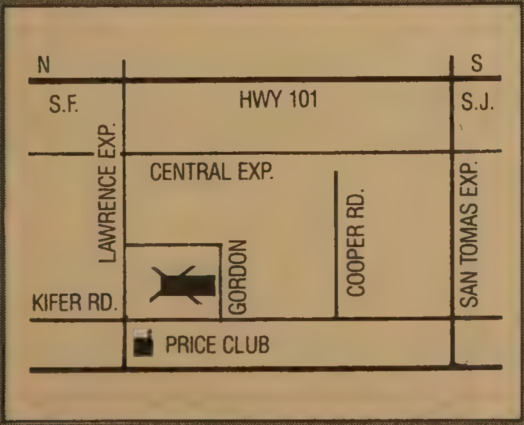

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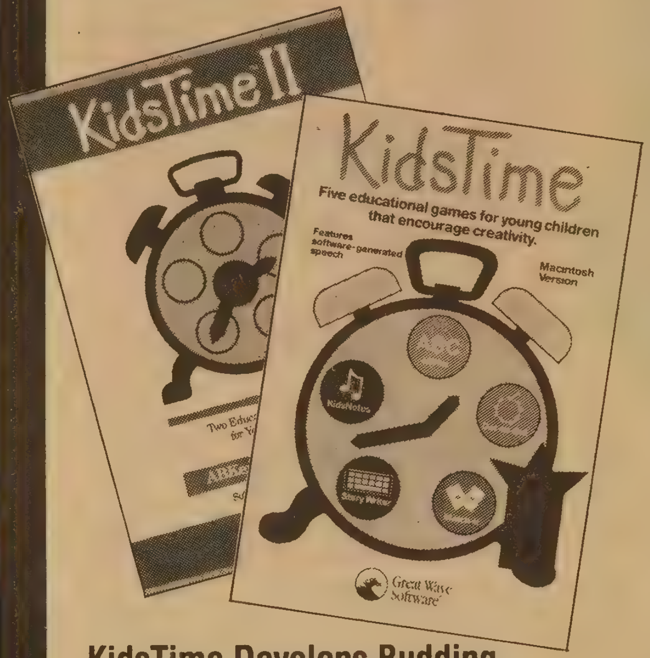
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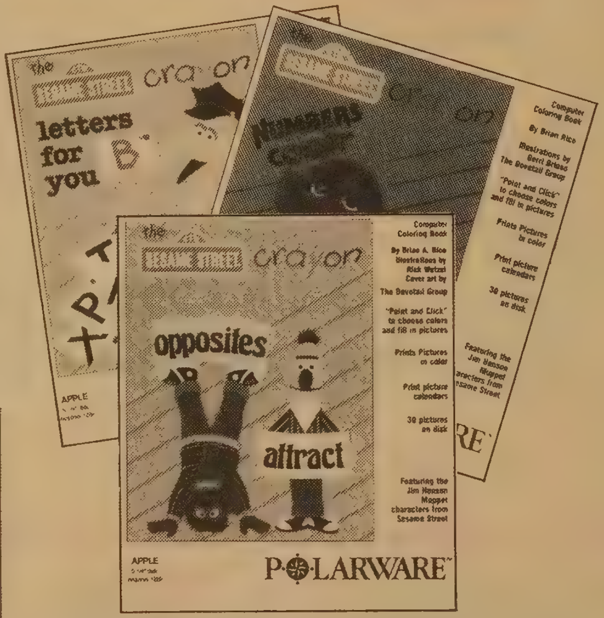
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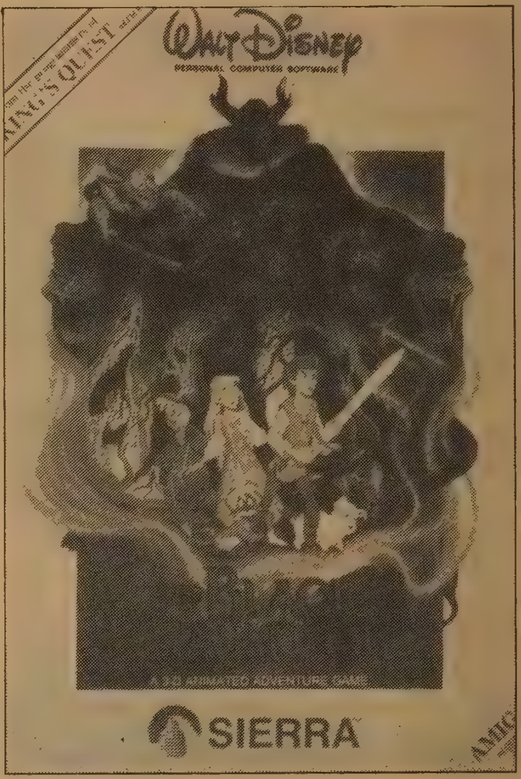
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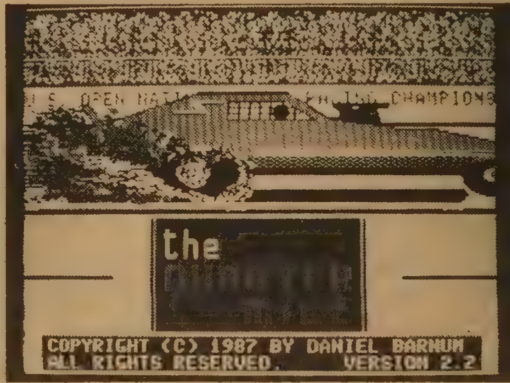
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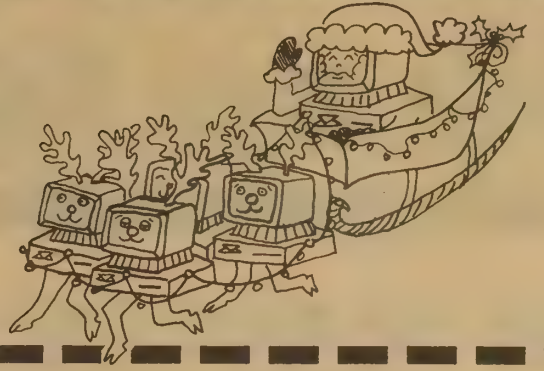

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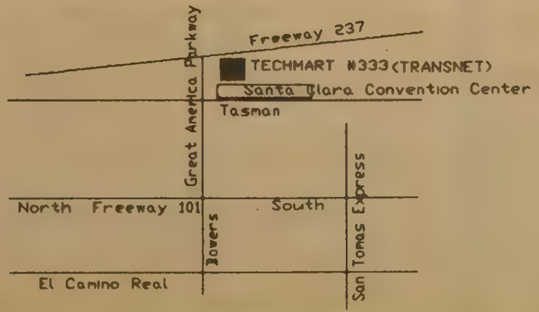

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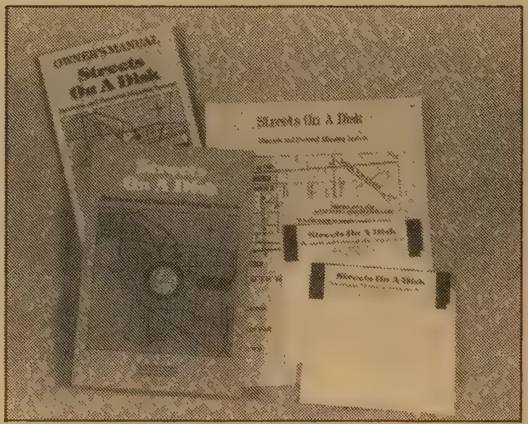
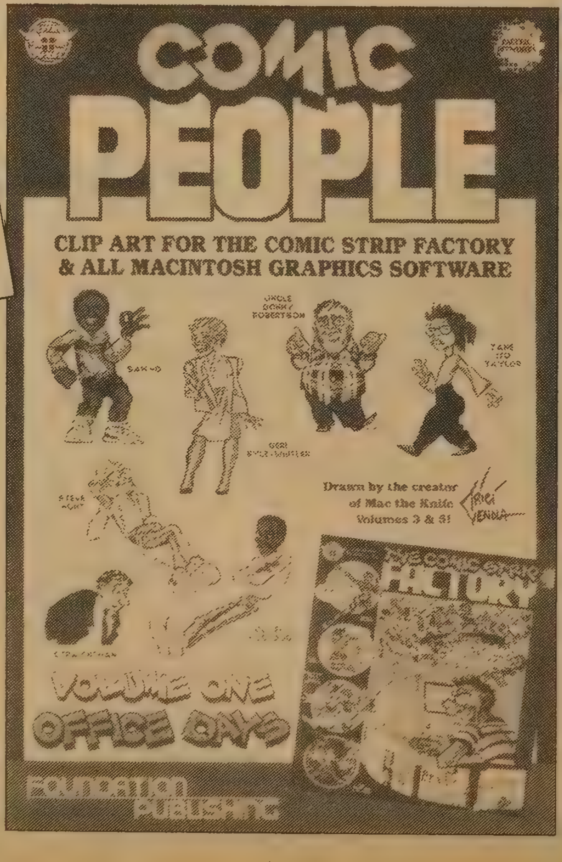
The new *Deluxe Version 2.0* of *Streets On A Disk* from Klynas Engineering is a business and personal mapping system that puts the maps of the United States and major metropolitan areas on your computer. *Streets On A Disk* allows you to print personalized maps and plan the most cost efficient travel routes across town or across the country. It also allows you to store the locations of friends or customers on the map along with addresses and other information. You can even create text files that let you transfer your maps into your word processor, database or other applications. $79.95. $20.00 for each major metropolitan area map. Available for IBM and compatibles. Klynas Engineering, P.O. Box 1666, Simi Valley, CA 93062. (805) 583-1029.


OWNER'S MANUAL
Streets On A Disk
Streets On A Disk

Comic People Makes The Comic Strip Factory Even More Fun

Comic People from Foundation Publishing is a clip art package that offers a half dozen new characters for *The Comic Strip Factory* or any other Macintosh graphics software program. Subtitled *Office Days*, the clip art includes different faces, expressions and positionable body parts that you mix and match to create your own fun in the workplace comic strips. It also includes workplace backdrops and a number of additional office props that can be added to your strips. ($39.95) For the Macintosh. The *Comic Strip Factory* or other Macintosh graphics program such as *MacPaint* is required. Foundation Publishing, 10301 Yellow Circle Drive, Minneapolis, MN 55343. (612) 935-4230.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Drawn by the creator of Mac the Knife Volumes 3 & 5!
THE COMIC STRIP FACTORY
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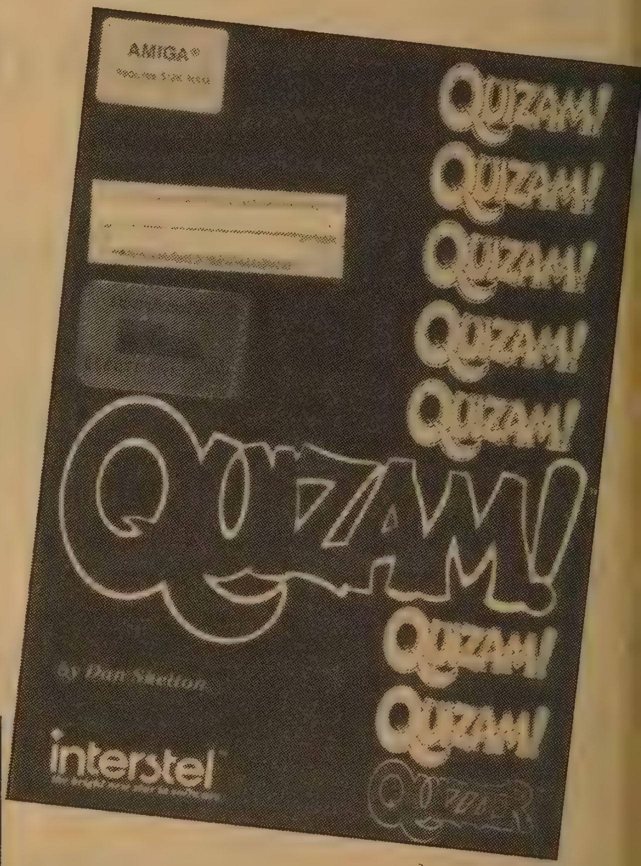
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QUIZAM!
by Dan Skelton
interstel

Quizam: You Knew All That TV Watching Would Come In Handy

Your job is to dismantle eight satellites that are orbiting the Earth. Their on board defense systems have malfunctioned, however, and they have begun to spout trivial questions. The only way to capture the satellites is to use your knowlege and skill to answer the questions in the shortest amount of time possible. *Quizam* from Interstel has over 2,000 questions on such topics as history, music and television. Not only must you answer the questions, but how fast you do it determines your progress on the game board. Eight different boards are included and there are eight skill levels. Available for the Amiga ($34.95), Apple II series ($29.95) and the Commodore ($29.95). Distributed by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171.

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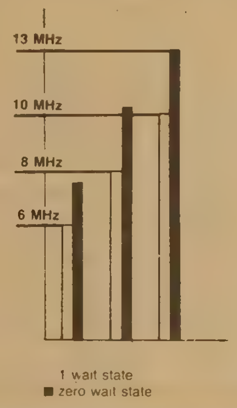

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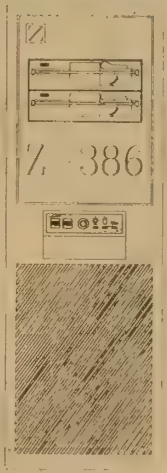

vertical case costs $190 extra

Tips from Z-Tech Systems

The nicest feature of the 386 computer, other than 16MHz CPU speed, is the speed-up cache memory above 640K. Here's where many Compaq clones missed the boat.

Most of 386 Clones have 512k on board. But to expand the memory you need 32 bit memory card, which doesn't exist yet. So you end up with 16 bit data transfer with D-RAM.

Z-386 uses all of its memory on special 32 bit memory card. It can take up to 2 MB of static RAM rather than D-RAM. Static RAM is much faster than D-RAM, does not require refreshing cycle which wastes CPU time. The extra 384K, other than the 640K, can be used either as cache memory to speed up data I/O, or to relocate the EGA Bios into RAM for ultra fast drawing.

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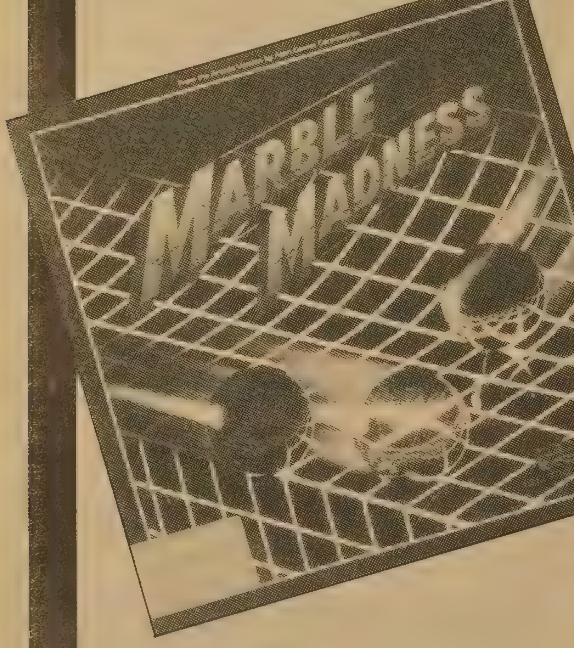
Hot & Cool Jazz from Electronic Arts is for use with *Instant Music, Deluxe Video* and *Deluxe Music Construction Set.* It is a music library disk that contains over 40 songs covering jazz history from the turn of the century to the present. Selections include jazz tunes from New Orleans, BeBop, Ragtime and Fusion among others. It also provides studio recorded, digitized instruments that include jazz drum kit, sax, and trombone. The thirty page manual contains a history of jazz, tutorials to teach jazz theory and harmony, and a discography of 50 great jazz records. ($29.95) Available for the Amiga and the Apple IIGS. Distributed by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171.



Marble Madness Now For IBM And The Atari ST

First it was a popular arcade game and then it took the Apple and Commodore worlds by storm, now all those envious IBM, Tandy and Atari ST owners can finally catch *Marble Madness.* Your goal is to direct your marble through three dimensional raceways without falling over the edge due to gravity, being pushed over the edge by dangerous adversaries or driven off the edge when you realize the reason the game is called *Marble Madness*. There are six increasingly difficult raceways providing challenges for one or two players. Available for the Atari ST, IBM/Tandy and Apple II series ($34.95), Commodore ($29.95), Amiga ($49.95). Distributed by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171.

Popular Print Shop Now For The Apple IIGS

The newest version of *The Print Shop* from Brøderbund Software has been totally redesigned to take advantage of the Apple IIGS's high resolution and color. Graphics now come in small, medium and large sizes. It also includes a more sophisticated graphics editor for editing multi-color graphics or creating new ones. The *Print Shop* includes over 120 graphics, full panel designs, patterns, typestyles and borders. A color printer allows you to print your work in multiple colors. ($59.95) For the Apple IIGS. As an extra holiday bonus Brøderbund is offering a free copy of *The Print Shop Graphics Library* (a $24.95 value) with the purchase of *The Print Shop* for the Apple II, IIGS, Commodore or IBM. The offer is good until December 31, 1987. Brøderbund Software, 17 Paul Drive, San Rafael, CA 94903-2101. (415) 492-3200.

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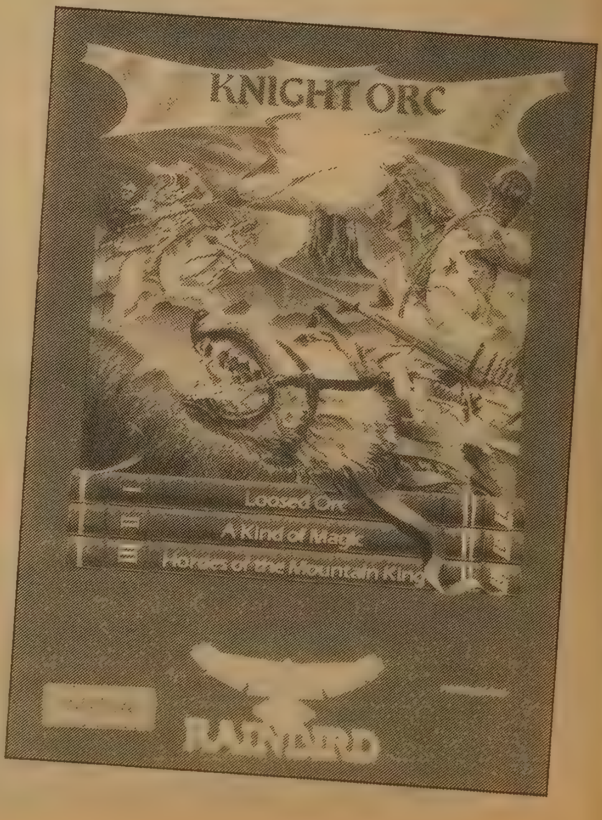
Brøderbund Software

For The Adventurer/Strategist

Knight Orc Is A Humorous Tale Of Revenge

If you've always had a soft spot for the minions of evil, *Knight Orc* from Firebird could be for you. In this game you're an "oppressed" orc that rises up on a quest to throw off the yoke of humankind. You must coordinate a band of five characters each of which lead separate lives and have separate goals. Disk versions of *Knight Orc* employ illustrations with digitized pictures and a language interpreter with multiple command sentences and a 1,000 word vocabulary. ($44.95) For the Amiga, Commodore, Apple II, Macintosh and IBM. Firebird Licencees Inc., P.O. Box 49, Ramsey, NJ 07446. (201) 444-5700.



The Guild Of Thieves Wants You

If you didn't get enough of the land of Kerovnia in *The Pawn,* then you might want to join *The Guild Of Thieves*. Firebird's sequal to *The Pawn* includes an edition of *What Burglar,* Kerovnia's favorite publication: circulation 2,118,679. Paid circulation 186 (the rest were stolen). This publication will help you in your adventures and tell you the best places to eat, drink and purchase the

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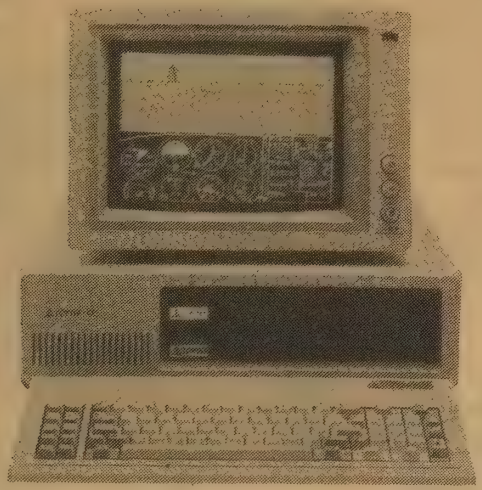

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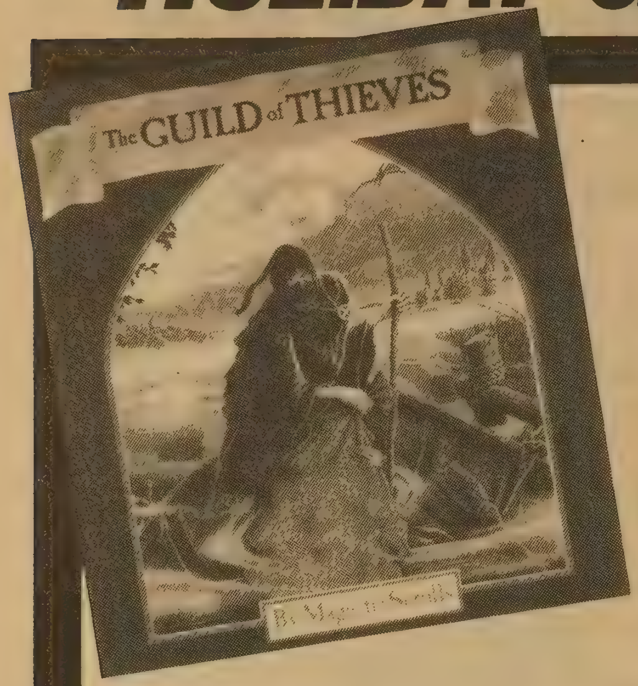

latest fashions in thieving ware. Amazing graphics and intriguing puzzles are an integral part of *The Guild Of Thieves.* ($44.95) For the IBM, Macintosh, Amiga, Commodore, Atari ST and Atari 800/1300XL. Firebird Licencees Inc., P.O. Box 49, Ramsey, NJ 07446. (201) 444-5700.

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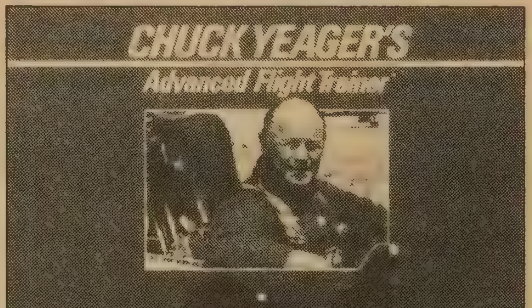

Brrrr Those Aliens Are Cold

Aliens have invaded the earth and set up an outpost on the South Pole. They've also set up an energy field that can only be breached long enough to send in one tank: The ArcticFox. *ArcticFox* from Dynamix and distributed by Electronic Arts pits your super tank against a host of alien tanks, fighter planes, mines and missile launchers. Equipped with a cannon, mines and a guided missile launcher of your own you must break through the alien defenses and destroy their headquarters. You face perils not only from the enemy but also from the harsh arctic environment. Sudden storms can cause a "white out." You can also skid across slick ice flats and into a crevice. Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171. Now for IBM computers. Versions for other computers also available.

ARCTICFOX
BY DYNAMIX
TALES OF THE UNKNOWN
The Bard's Tale

Bard's Tale For IBM And Atari ST

The popular *Bard's Tale* designed by Interplay productions has finally reached the eager hands of IBM and Atari ST owners. The *Bard's Tale* takes place in the besieged town of Skara Brae. The streets are not safe and the font of all this evil is a wizard who is holed up in his tower. You must assemble a party of adventurers from ten character professions, who over time gain the experience and wealth necessary to free Skara Brae from its unfortunate fate. Your adventures will range from street fighting with mercenaries to exploring the mysteries of underground places. The *Bard's Tale* includes three dimensional scrolling of the town and dungeons and graphic representations of your enemies and friends. ($49.95) Distributed by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171. Versions for Apple IIGS, Amiga, Commodore and Apple II series also available.

PATTON VS ROMMEL
By Chris Crawford
Adventure Construction Set

Patton And Rommel Get The Chance They Never Had

For those who like "what if" situations, *Patton Vs. Rommel* gives you the chance to see these two famous generals go head to head. Designed by Chris Crawford of *Balance Of Power* fame, the game takes place on the muddy fields of Normandy in 1944. You can play against the computer or against another player. Between battles the generals come on the screen offering critiques of your performance and advice for the future. The game features animated battles with sound effects, simulation of army movement, weather and battle conditions and an historically and geographically accurate game map. ($39.95) Available for IBM, Tandy and Macintosh computers. Distributed by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171.

Adventure Construction Set Gets Boost From IBM/Tandy Machines

The enhanced version of *Adventure Construction Set* is the latest in Electronic Art's low priced Software Classics line. Taking advantage of the extra speed and size of the IBM and Tandy machines *Adventure Construction Set* includes seven tutorial adventures and one full length adventure that can be customized by the user. Adventures can be centered around science fiction, spy/mystery or fantasy themes. In making their own adventures users can select from 13 magic effects, 30 kinds of musical themes and create a story with up to 240 rooms and 7500 props. For IBM and Tandy computers ($14.95). Version for Commodore and Apple II machines ($14.95) and Amiga ($19.95) also available. Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404. (415) 571-7171.

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TELECOMMUNICATIONS

Just The Fax

By Brock N. Meeks

When you talk about “communications” and PCs, the image of modems screeching their greetings comes instantly to mind. For many, however, those communications are not accomplished by modem, but by facsimile (fax) machines.

No longer the occupants of some dusty “utility” space, fax machines, like hard disks, have come out of the closet, only to be stuffed inside desktop PCs.

According to Scott McCready, senior market analyst with Cap International Inc., a Massachusetts-based market research firm, there are over 540,000 installed fax machines in the U.S. “Because fax machines are lighter, faster, and less expensive, people are moving them out of the mail room and into the office,” McCready “And in growing numbers people are installing ing a fax in their desktop PC.”

That “PC fax” McCready mentioned is the newest rage in computer add-ons: the PC-fax card. These cards emulate a fax and put its communications capability at your fingertips. Two years ago you couldn't find a PC-fax card; today there are six PC-fax card manufacturers.

The fax machines of a few years ago—unwieldy beasts, both expensive and slow—have romped into the information age, at 9,600-bps. Fax machines used to take up to six minutes to send a single page document; the fax of today can send that same document in about 15 seconds.

HOW DO YOU SPELL “SURVIVAL”?

For David Darrow the letters “f-a-x” spell survival.

Darrow is a freelance illustrator in a competitive pressure cooker that combines the glitz and glamour of Hollywood and the high tech triangle of Los Angeles county. Darrow claims the fax gives him an edge. “When getting the job done means being in two places at one time, and I mean that literally, the fax can't be beat,” he said.

I watched Darrow as he scrambled to meet an important deadline. He was finishing up a series of sketches for a larger project: a poster for a new Steven Spielberg movie. He was running out of time. Moreover, he was at least an hour's drive from where he had to drop off the sketches. (If he makes this deadline, he can add “magician” to his resume, I said, thinking out loud.) “No sweat,” he said, “I'll fax the drawings.”

Darrow explained that he used to use a courier service when in a bind. That saved him driving time, so he didn't have to leave his studio, but the deadline was still in jeopardy as the courier still had to fight the infamous LA traffic.

Cap International's Scott McCready: “Because fax machines are lighter, faster, and less expensive, people are moving them out of the mail room and into the office. And in growing numbers people are installing a fax in their desktop PC.”

“With the fax, these sketches go right from my studio to the art director's desk.” This allows the art director to quickly mark up the drawings, Darrow said. “The art director will make some suggestions and note changes. When done, the marked-up drawings are sent right back to my fax. That process used to take all day, sometimes more,” he said.

“Now I can get work approved much quicker. Using a fax is almost like being there in person. In fact, I can actually send and receive drawings to several people during the day without leaving my office.”

FAX FOR THE MASSES

McCready notes that manufacturers contend their PC-fax systems are more cost effective than a standalone fax. (A PC-fax card costs around $1,000; the price tag for a standalone fax typically runs more than $2,000.) However, McCready points out that a standalone fax is a shared resource, unlike a PC-fax card. “An office manager, in today's market, faced with buying a single $2,000 fax or six $1,000 PC-fax cards is almost surely going to opt for the standalone (fax),” said McCready. But there's no denying it: a PC-based fax is tempting.

Typically these PC-fax cards come with a 9,600-bps modem and special software. The software is needed to convert ASCII files and graphics into the bit-mapped format that a fax machine uses. (These PC-fax cards can communicate with any other PC-fax card or standalone fax.) The 9,600-bps data transfer rate of these cards is possible because the files are compressed during transmission, and decompressed by the receiving machine. In addition, these new PC-fax cards are compatible with any fax machine —worldwide. (The fax industry, unlike the modem industry, has shown the foresight to make sure fax technology is standardized, worldwide.)

THE HUMAN INTERFACE

Analysts like McCready say that people feel more “natural” using a fax machine then PC-based telecommunications. Instead of dealing with binary file transfers and data bits, a fax sends *pages*. And instead of hassling with communications protocols and modem settings, a fax requires only the inserting of a single page and pushing a button.

Using a PC-fax card is even easier, because you don't have to bother with the intermediate steps of printing a document and carrying it to the nearest fax. With a card in your PC the entire process is handled from the keyboard.

Industry analysts believe fax transmissions will seriously compete with services such as electronic mail, overnight mail, and courier services. The main advantage of a fax is that transmission is immediate and complete—you slide in a piece of paper (or specify a file) and press a button.

In contrast, an electronic mail system requires that you know at least two sets of commands (one for the email system; one for your communications software), have your communications parameters set correctly, modem set up correctly, etc. And after all that, you still can't transmit graphics on an email system with any degree of certainty.

HYPE OR FAX?

Much hype has surrounded the emergence of these PC-fax cards. The low price and convenience certainly make these add-ons a tempting candidate for a slot in your PC. However, like any new device, the PC-fax card faces stiff opposition from the established marketplace.

As manufacturers of standalone fax machines shrink their products, both in size and price, the edge will undoubtedly go to them. Indeed, senior analyst McCready says that Cap International's forecast for the PC-fax market in 1990 is only 150,000 installed units. “It's awfully hard to forecast a market with no historical reference,” he says. “But it's future is an open book.”

PC-fax cards must continue to keep up with advances in graphics and telecommunications technologies, while maintaining a reputation for easy use. That accomplished, PC-fax products could become a highlight in the evolution of communications technology, instead of an obscure footnote on the time line of the information age.

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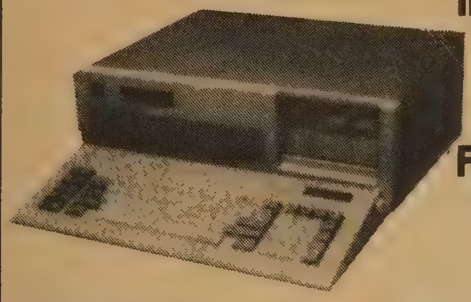

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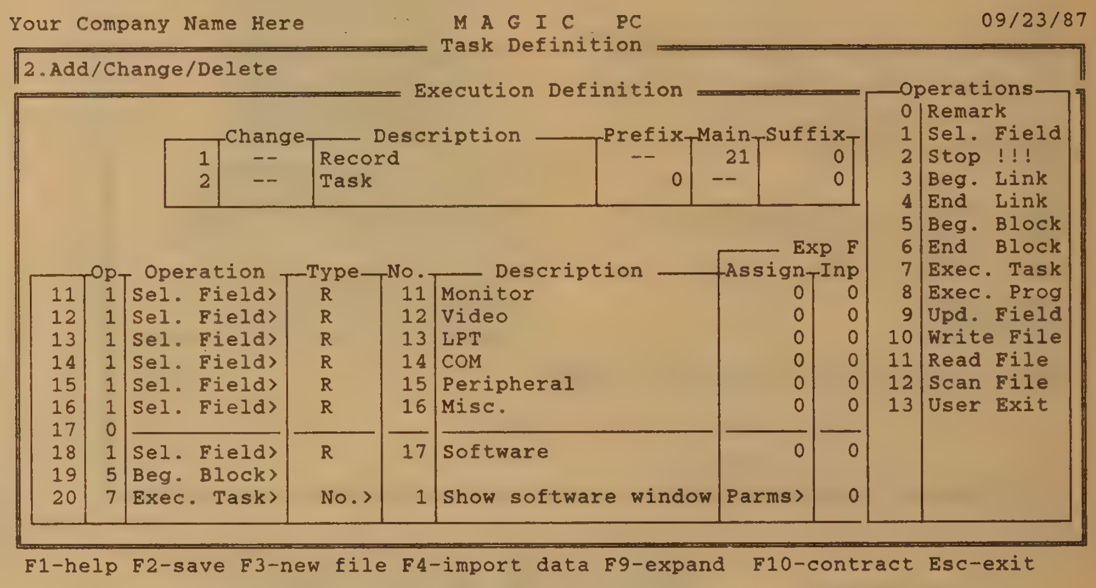
MAGIC:

More Than Hocus-Pocus

By Warren Sirota

This month we'll take a look at a table-driven application development system called *Magic*, distributed by Aker Corp. The product boasts (and delivers) many capabilities: a data dictionary-based approach to application development, strong relational database capabilities, excellent screen design facilities, and simple procedures for menu maintenance. With improvements to its report writer and minor changes to the function key assignments, this product could be a very effective vehicle for delivering snazzy applications to end-users at low cost. Although *Magic* is interpreted, run-time modules are available.

> This product could be a very effective vehicle for delivering snazzy applications to end-users at low cost.



```
Your Company Name Here            M A G I C   PC                          09/23/87
═════════════════════════════════ Task Definition ═════════════════════════════════
2.Add/Change/Delete
═════════════════════════════ Execution Definition ═══════════════  ─Operations──
                                                                   0 │Remark
              ┌─Change──── Description ────────Prefix─Main─Suffix─   1 │Sel. Field
              │  1 │ --  │Record              │  --  │  21│     0    2 │Stop !!!
              │  2 │ --  │Task                │     0│ -- │     0    3 │Beg. Link
                                                                   4 │End  Link
                                                                   5 │Beg. Block
                                                    ─────── Exp F  6 │End  Block
 ┌─────Op─ Operation ──Type──No.──── Description ─────Assign─Inp   7 │Exec. Task
 │ 11 │ 1 │Sel. Field> │ R   │ 11 │Monitor               │    0 │ 0   8 │Exec. Prog
 │ 12 │ 1 │Sel. Field> │ R   │ 12 │Video                 │    0 │ 0   9 │Upd. Field
 │ 13 │ 1 │Sel. Field> │ R   │ 13 │LPT                   │    0 │ 0  10 │Write File
 │ 14 │ 1 │Sel. Field> │ R   │ 14 │COM                   │    0 │ 0  11 │Read File
 │ 15 │ 1 │Sel. Field> │ R   │ 15 │Peripheral            │    0 │ 0  12 │Scan File
 │ 16 │ 1 │Sel. Field> │ R   │ 16 │Misc.                 │    0 │ 0  13 │User Exit
 │ 17 │ 0 │──────────  │──── │─── │──────────────────────│ ──── │──
 │ 18 │ 1 │Sel. Field> │ R   │ 17 │Software              │    0 │ 0
 │ 19 │ 5 │Beg. Block> │     │    │                      │      │
 │ 20 │ 7 │Exec. Task> │ No.>│  1 │Show software window  │Parms>│ 0

 F1-help F2-save F3-new file F4-import data F9-expand  F10-contract Esc-exit
```

Figure: Building the actual data maintenance programs can be as simple as setting up a data view for the program to operate on, and then drawing a data entry screen with Magic's excellent screen generator.

Basic Development Steps For Magicians

Because *Magic* is such an unusual application development environment, it is instructive to look at the steps required to set up a small relational application. The one that I implemented was a PC Inventory application to keep track of the numbers of PCs kept in various locations in a company, and the names of major software packages at each location.

The Magic system has three menu levels that are always present — Systems, Sub-Systems, and Programs. The first step in creating a new system is to add an entry for it to the Systems menu, a task which is easily accomplished with a few keystrokes. Then you enter the Sub-System menu by choosing the new system with the cursor and hitting Enter, and add items to the Sub-Systems menu. Initially, you might add three major sub-systems: "Data Maintenance", "Reports," and "Utilities." You then choose "Data Maintenance" from the menu and set up Program choices of "PC Inventory Maintenance" and "Software List Maintenance." Setting up menus in *Magic* is extremely simple and requires no coding.

The next step is to define the files. This is straightforward. You must specify a primary key to be used with each data file, and you can also create additional indices. These keys can later be used by the end-user for ad-hoc search orders. The data can also be sorted on logical expressions involving combinations of non-key fields.

Once your data is defined, you can build the actual data maintenance programs. On the simplest level, this merely consists of setting up a data view for the program to operate on, and then drawing a data entry screen with *Magic's* excellent screen generator. The Figure shows part of this process.

> Once you've defined the screen and set up your validation criteria, you don't have to do any more programming to enable a wide range of functions for the end-user.

There are three tables displayed on the screen — two in the Execution Definition window and one in the Operations window. The top table in the Execution Definition window shows how many tasks are defined for each stage of the operation. On the line with a Description of "Record," you can see that there are 21 program lines associated with the interactive processing of each record, and 0 lines associated with the post-processing of each record (for example, updating the count of records processed). For the task as a whole, it is possible to define program lines that will be executed before any records (Prefix) and lines that will be executed after the user has finished with the records that he wants to see (Suffix). The table listed in the bottom window shows the program lines for processing each record. Mainly, this program consists of a "Sel. Field" (Select Field) operation for each database field. This operation is used to set up the view; you must select each field before you can include it on the data entry screen.

The "Beg.Block" and "Exec.Task" commands shown in the bottom window are used to create a pop-up list of the possible choices of software packages. "Exec.Task" is actually a subroutine call which is executed when the user moves the

---

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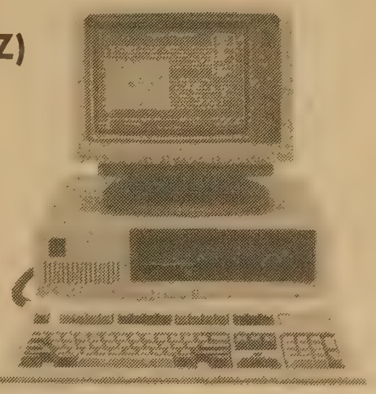

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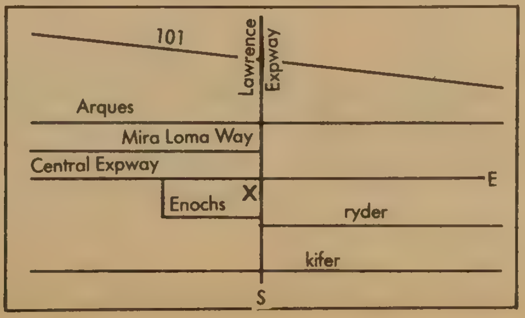

cursor to the Software field and presses the F5 key to Zoom in on the field. You can define any program that you like to be executed upon activation of the Zoom command.

The Operations Window shows the other language commands that are available. Don't be misled by the small list — most of the capabilities of *Magic* are hidden in its nonprocedural part, parameters that the programmer specifies by zooming in on an item and filling in some table entries. Note that Beg. Link and End Link are used to flexibly join the starting table to other tables (the basic relational operation).

The fancy part of all this is that, once you've defined the screen and set up your validation criteria (by zooming in on some of the fields in the Execution Definition window), you don't have to do any more programming to enable a wide range of functions for the end-user. The *Magic* system automatically provides the user with facilities for adding, deleting, and changing records, as well as for searching, sorting, and filtering the database in any order. This is where *Magic* can save you a lot of time and effort.

With all this good news, it is inevitable that there would be some bad news as well. The main problem is that report generation for multiple-breakpoint summary reporting is quite cumbersome. Variables for subtotals and totals must be explicitly declared, cleared and incremented by the programmer. To be fair, it would be just as cumbersome to code this type of report in *dBASE*; however, there are add-ons to *dBASE* which make life easier. Perhaps the next version of *Magic* will include a better report generator.

Also, there is no way of stepping through a program with *Magic*. This, and the less-than-ideal clarity of the manual, make debugging *Magic* programs more difficult than it should be. There is an automated program checker, which is useful and does catch some errors, but no program checker can catch all of them.

> **A *Magic* application can deliver a lot of power to the end-user with minimal programming time. However, since there are so many options, the user must be willing to invest some time into learning how to operate *Magic*.**

The other problem with *Magic* is sort of a double-edged sword. A *Magic* application can deliver a lot of power to the end-user with minimal programming time. However, since there are so many options that the user can exercise, he must be willing to invest some time into learning how to operate *Magic*. It is not possible to tailor every interaction the way you can in *dBASE* (nor would you necessarily want to); in particular, there is no way to intercept and examine every keystroke, and no way to change the function key prompts that appear across the bottom of the screen. This problem is aggravated by the somewhat non-standard use of the PC keyboard inside of *Magic*. The Esc key, for example, is used to edit a field's contents, not to back out of a menu structure.

Summary

Magic is a reliable and cost-effective way to deliver powerful applications to sophisticated users; however, there are few facilities to enable the programmer to guide novice users by the hand through the application. Although programmers may find it difficult to adapt to the *Magic* way of doing things, this implementation of table-driven programming is innovative and works well in most respects. The product's main flaw is its report writer, which is graceless when it comes to handling multiple levels of subtotals. Perhaps the next release of *Magic* will improve on this. (*Magic*, Aker Corp., 18007 Skypark Circle Dr. #B2, Irvine, CA 92714, (714) 250-1718. List price: $695.00. Promotion price (as of 9/25/87): $199.00 Runtime modules: $95.00 or $570.00 for 10. The product comes with a 30-day unconditional guarantee — if you don't like the product, you can get a refund of your purchase price minus a $19.95 restocking fee.) ☐

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Introduction To Networking With UUCP

By Bennett Falk

The people who can most readily understand the benefits of multi-user, multi-tasking systems are the people who need to exchange information with other computer users over phone lines. Once a single-user computer makes a connection over the phone, it is no more powerful than the equipment it's attached to. You can waste a lot of time watching your computer receive packets of information at 120 characters per second or waiting for an overworked bulletin board to give you its password prompt.

Most versions of the UNIX operating system include a group of utilities that addresses this problem nicely. This family of programs is known collectively as UUCP: the UNIX to UNIX copy programs.

> **Most UNIX computers have serial ports built in and can be included in UUCP networks for no more than the cost of a cable and modem. While it may not be on the cutting edge of network technology, UUCP is a cheap and readily accessible tool for building computer networks.**

UUCP manages communications between UNIX computers, and though the name "uucp" technically refers to a file transfer program, the collected UUCP utilities also co-ordinate requests for remote program execution and for the exchange of electronic mail. UUCP basically allows UNIX system administrators to build a network in which resources from a number of UNIX machines are accessible to users of any participant computer.

UUCP networks are "batch" oriented: they operate by putting work requests in a queue. The work gets done more or less behind the user's back. Your job probably won't be done instantaneously, but at least you won't be prevented from doing other things while your request is executing. The "store and forward" nature of UUCP networks makes them awkward in comparison to "interactive" networking tools, like Sun's Network File System (NFS).

In addition UUCP networks usually use serial ports to connect machines, and consequently they are slow by comparison with other networks that require special hardware. Fortunately most UNIX computers have serial ports built into them and can be included in UUCP networks for no more than the cost of a cable and modem. While it may not be on the cutting edge of network technology, UUCP is a cheap and readily accessible tool for building computer networks.

How Does It Work?

One of the endearing features of network building with UUCP is that the computer network is, in large measure, dependent on the network of people who administer UNIX computers. Before a UUCP connection can be made between two machines, the administrators on both machines must have agreed on some basics: what login names and passwords calling machines will use, what the system names of the machines being connected are, what directory access and privileges to each machine, and who may call whom at what time of day. Once these things have been worked out between the humans involved, the computer operations are relatively straightforward.

Whenever one machine calls or "polls" another, it "logs in" in much the same way that conventional users do. The polling machine uses a port that could also be used by a human user for an interactive session, and it must have a valid login account and password to gain access to the machine being called. Most UNIX systems include a generic user account named "uucp" that can be used for this purpose, but it is generally a good idea for each machine that calls a site to have its own login account on that computer.

Once past the login procedure, both computers in a UUCP connection run a program named "uucico." On the polling machine, uucico is the program executed to place the call in the first place. On the machine receiving the call, uucico is the default shell for UUCP login accounts and is run as soon as the polling machine has successfully logged in.

> **Using UUCP can be as simple as using UNIX mail. All you need to know is the login name of the person you want to send mail to and a pathway from your computer to the machine on which that person logs in.**

Once these two uucico processes have connected, they exchange system names as an additional level of protection before getting down to business. In modern versions of UNIX, utilities exist for the system administrator to set the system name (or node name) with relatively little effort. In earlier versions of UNIX, the system name could be changed only by recompiling the UNIX kernel and re-booting the system.

In general, after a successful login the calling machine will send any requests that have been queued up for the machine being polled. Any files that are needed to complete a job are transferred to the machine on which the job is to be executed.

Once the caller's jobs are finished, the requests for the calling machine that have been queued on the passive site will be transferred to the caller and executed. When requests from both machines have been exhausted, the uucico processes exchange exit codes and hang up.

But How Do People Use It?

Once everything has been set up, actually using UUCP can be as simple as using UNIX mail. All the user needs to know is the login name of the person you want to send mail to and a pathway from your computer to the machine on which that person logs in. You put all these things together in a single command that looks like this:

```
mail ebmudd!hapless
```

This will send electronic mail to a user named "hapless" on a machine named "ebmudd." (If you're working with the C-shell, you will need to modify the command slightly because "!" has a special meaning to that shell. The C-shell version looks like this:

```
mail ebmudd\!hapless
```

The "\" is used to tell the shell to interpret the next character literally.)

All UUCP commands use the "machine!name" format to address files, programs and users on other machines.

continued on page 150

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AMIGA

Butcher— The Other Graphics Package Everyone Needs

By Matthew Leeds

This month I want to rave about a product that has brought the fun back into using my Amiga, the kind of excitement I felt when I first started using *Deluxe Paint*. I'm sure most of you know what I'm talking about—the rush you felt when you realized the amount of power at your fingertips, the control over the creative process, and the sheer expanse of options that suddenly opened up in front of you. A program that opened the real power of the Amiga as a color graphics tool.

What I'm talking about is a small, obscure program from an almost unknown software publisher: *Butcher* from Eagle Tree Software. *Butcher* is the other program you must have if you're going to work in color graphics on the Amiga. You can spend hours exploring its capabilities, or get down to doing useful work in minutes.

Eagle Tree describes *Butcher* as a graphics conversion and processing program designed to complement digitizers and paint programs. It is not used to create graphics from scratch, but rather to work on existing files. It fills almost all the gaps left by *Deluxe Paint* and a few other graphics programs.

Have you ever been working on a picture and needed just one more color, but couldn't find a way to free a color register? *Butcher* can easily solve this problem. You can use it to get a histogram of color register usage, in sorted order. Just select the least-used color and merge its pixels into another color. This will free up a register.

How about the last time you digitized an image? Not satisfied with the sharpness of the image? You can use *Butcher* to subtly add darker edges to the transitions between tones in the image, automatically. Or to shift the selection of colors in the image to enhance the contrast, after you've saved it as an IFF file from your digitizer.

Looking for some new special effects to add to your repertoire? How about transforming your image into a mosaic pattern of your choice? Or creating an edge mapped silhouette in full color? Or perhaps selectively dropping bit planes from your image to create half-tone effects?

Now you begin to get some idea of what you can do with *Butcher*. Naturally *Butcher* supports 320 or 640 mode, with or without interlace, overscan, and super bit map images. It also supports color cycling (four ranges in either direction) and will convert HAM images to low-res and low-res to HAM.

> **Leisure Suit Larry is a retrograde romp through a misanthrope's view of the singles scene, supposed to test your street smarts and suave sophistication. I'm all in favor of any computer simulation that attempts to bring some element of human interaction into play, but not at the expense of half of the human race.**

I've barely touched on the full range of *Butcher's* capabilities here. This program is far better than any game—you could spend weeks playing around just getting ideas for new image manipulations or special effects. If you have any interest at all in graphics on the Amiga, you have to purchase a copy of this program. The best part of all, however, is the price. It lists for $37 and I've seen it discounted below $30 locally. Be sure to get version 2.0.

SOFTWARE NEWS

For those of you who like to follow the news in the Amiga development community you may be interested to know that Epyx has hired several Amiga alumni. This brings to three the number of Amiga-ites at Epyx: David Morse, Epyx's chairman and CEO, David Needle, system designer for the Amiga and R.J. Mical, father of the Amiga's Intuition operating system. The key to all this is that the press release announcing the arrival of Needle and Mical said they were hired to lead Epyx's work on non-software products.

Does this mean that Epyx will be creating a new line of personal computers? Will they be working on a CD-ROM appliance as the keystone to a new line of home entertainment and educational products? Will we see an evolutionary jump in the quality of coin operated arcade games? Your guess is as good as mine, but one thing is certain—Epyx has been hiring some great talent in the last six months and I look for some amazing products to come out next year.

Tapping what is either a new low in the art form of parody computer games or an undue influence of John Waters movies, Electronic Arts, in affiliation with Sierra On-Line, is releasing *Leisure Suit Larry In The Land Of The Lounge Lizards*. Described as a humorous endeavor for adults, it is set in the fictional town of Lost Wages. In one adventurous evening your objective is to overcome your nerdiness and seduce the woman of your dreams. Larry suffers from "bad looks, bad breath, and lack of money." This retrograde romp through a misanthrope's view of the singles scene is supposed to test your street smarts and suave sophistication.

Don't get me wrong. I'm all in favor of any computer simulation that attempts to bring some element of human interaction into play, but not at the expense of half of the human race. A few developers have raised their heads above their keyboards long enough to see that there have been changes in the social consciousness and that they should be reflected in their products. But you won't find them here. Yeah, I know, this is supposed to be a parody, but it still leaves a foul taste in my mouth. It's on par with a movie like *Revenge of the Nerds;* simple-minded and single-tracked. Come on gang, we all deserve better.

About the time this column comes out I will have just finished a marathon ten days at two computer shows: The Commodore Show in southern California and the AmiEXPO in New York. I will be covering both events in my next column and will be bringing you news of new products, new developments, new trends, and additional miles on my frequent flyer program.

Sometime in the next few months I'll bring you an in-depth look at *WordPerfect* for the Amiga. I've received a review copy, and rather than just give an overview I'd rather wait a while, use the program on a regular basis, and then tell you what I think. One first impression, you'll want to run this program from a hard disk, it takes up three disks; not for the faint of heart. ☐

Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics and related fields. He currently works for Infinity Software.

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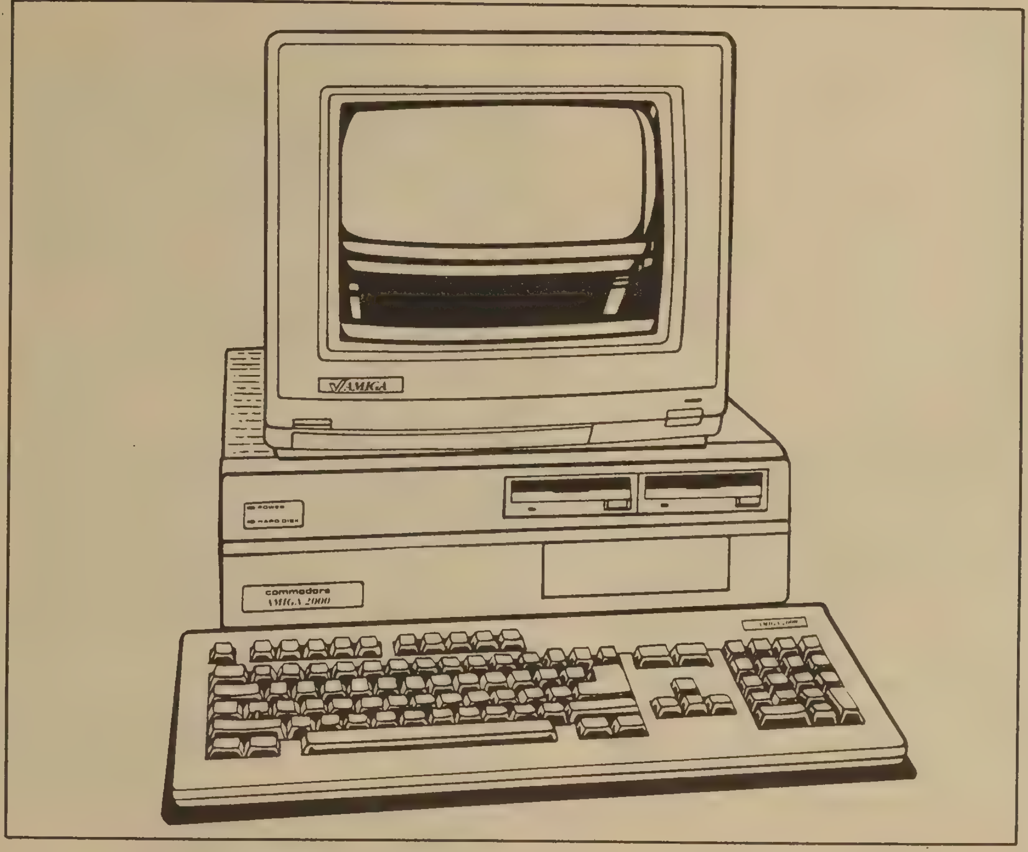

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ATARI ST

Megas Arrive, Applications Don't

By Helmi Kobler

We all knew Atari's new Megas would come sooner or later. It turned out to be later, but they have finally arrived. Retailers in my area all received their shipments of Mega4s within the same week and have begun moving them out the door. My impressions of the ST community's reaction is that the Mega4 is generating the most enthusiasm — probably because of its massive four megabytes of RAM. No other PC offers that enormous amount of RAM in a standard configuration, and besides, it's a good excuse to compare a Mega to puny one-meg Macs or PCs — something all ST users love to do.

I have reservations about the Mega4, though. Most prominent among them is the machine's retail price of $2399 and $2599 for a monochrome and color configuration, respectively. These prices put the Mega4, which is being positioned mainly as a machine for the professional and business user, in the same price range as a Mac SE, IBM's PS/2 model 30 or a fast 286 MS-DOS clone. $2599, in fact, puts the Mega4 dangerously close to some non-configured 32-bit 80386 machines (sans hard drive and monitor), which can outperform it in every conceivable situation.

Also, it's still regrettably true that there's a serious lack of business and professional applications software for the Atari machines. Despite the ST's progress in developing advanced applications in word processing, desktop publishing, CAD and spreadsheets, there's a far wider range of such software in both the Mac and PC worlds. A machine's functionality is not defined exclusively by its RAM — software counts, and the Mega4's four megs don't change the fact that the Mac and PC run better software.

It's also being argued that the Mega's technology is behind the times. Aside from its blitter chip, the Mega offers no real performance enhancements over the original STs of two years ago. At the 520's introduction, 640x200 resolution graphics in four colors was respectable, a 640x400 monochrome resolution was exceptional, and the 520's 8 MHz cpu was considered fast. Now, though, many 286 PCs are speeding along at 12 MHz, and the newer 32-bit machines fly at 16 MHz. And graphics standards have definitely improved — consider IBM's MCGA and VGA standards in its PS/2 line. So the rest of the PC world has advanced, while Atari's brand new Mega machines have not improved much on their two year old technology.

Unless the machines are significantly discounted — which Atari is discouraging dealers from doing — the Mega4 faces an uncertain future competing against the other machines in its price range.

From the Arcade version by Atari Games Corporation
MARBLE MADNESS

If you loved the Amiga or arcade versions of *Marble Madness*, you're in for disappointment with the ST version.

> ***Empire* claims to be the "Wargame Of The Century," and as far as the ST world's concerned, I believe it is.**

If you ask me, the two megabyte Mega2 is Atari's machine with the potential. The Mega line does have some respectable qualities: a blitter chip to speed up some graphics operations, a 68000 bus to allow for expansion, a sleek, space efficient design and a detachable keyboard with a solid feel. I certainly wish my own 520 had those enhancements.

The Mega2's two-megabyte RAM is enough for typical office and personal applications (and will be for some time, I think). And though the Mega2's price is still a little high at $1699 and $1899 for mono and color configurations, respectively, if prices fall a few hundred dollars, the Mega2 will sell to small businesses and individuals looking for a competent but relatively inexpensive computer.

Software News

On the new software front, Electronic Arts has finally released its ST version of *Marble Madness* ($34.95), that fantastic arcade game where the player guides his marble through a series of perilous, surrealistic mazes. EA has published several versions of the game for the Commodore 64, Apple II and IBM PC, but the original Amiga version was really the only one that did the arcade game any justice. I was hoping the ST version might be as successful a translation, but it didn't happen.

For one thing, none of the arcade game's nuances were incorporated in the ST version. Marbles don't appear to spin. They don't dissolve in acid, they don't crumble when they crash to a maze floor, they aren't sucked up into vacuums. Instead, the game uses a generic effect when you lose your marble — it just sort of disappears into the Twilight Zone.

Sound effects could be much more advanced. The game is full of monotone "doinks," and the original game's jazzy musical score is dull in the ST version. Controlling your marble with a mouse is awkward and frustrating, while using a joystick makes navigating the mazes too easy. And whoever designed the ST version of the game must not have had a strong understanding of Newton's laws of gravity. My marble seemed to climb sheer walls in a few cases, while riding the rim of trenches for long distances.

Of course, Amiga users might be eager to point out that the game's shortcomings are the result of the ST's lack of graphics and sound capabilities. I can't believe this for a second. The game's problems seem to be more of a result of a rushed and poorly planned programming job.

If you liked the original *Marble Madness*, the ST version will disappoint you. If you never liked the original, you're liable to have a violent reaction to this version.

My low opinion of *Marble Madness* was reinforced when I tried out *Empire* ($49.95) from Electronic Arts' Affiliated Labels division. The game, developed by a small company Interstel, claims to be the "Wargame Of The Century," and as far as the ST world's concerned, I believe it is. The name of the game is empire-building: you explore an unchartered planet, subduing the hostile cities you encounter and forcing them to produce war materials such as armies, fighters or a number of ships. The more cities you conquer, the more materials you can produce. And the more war materials you can produce, the more cities you can conquer. It's simple! Eventually, your empire will run into someone else's (either the computer's or a human opponent's) and then it's all-out war where you must mobilize your troops, ships and fighters to invade the enemy.

Empire is extremely involved. As Commander, you're faced with a number of decisions such as what materials to produce in conquered cities, where to employ them, which empire to fight and which to leave alone, where to set up shipping lanes, etc. The only problem with *Empire* is that games can take several hours to complete. The game's box and 72 page manual warn that "This program is highly addictive. Considerable otherwise productive time might be lost. Play only during vacations." I thought Interstel was only trying to be cute. They're dead serious. ☐

Helmi Kobler took his first step into the computer world in 1983 when he walked out of Macy's with an Atari 800 in his arms. Still an Atari user, he's now inseparably attached to his ST. He can be reached through MicroTimes or e-mail <helmi> on The WELL at (415) 332-6106.

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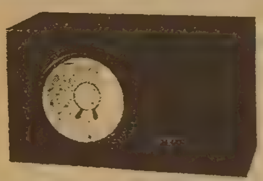

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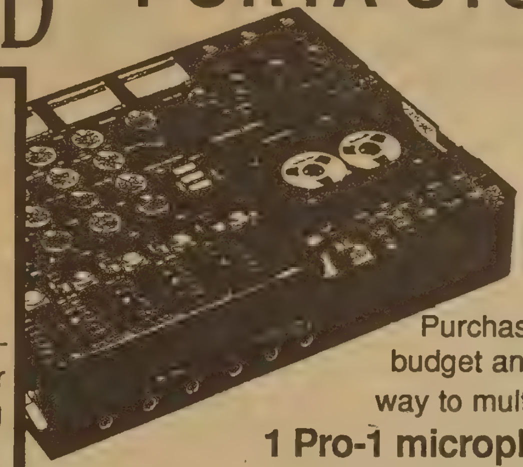

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APPLE II

The Laser 128EX

A Look At An Apple II Compatible

By Mark Markowitz

Almost anyone can make money turning out a PC clone, but only Video Technology of Hong Kong and Northbrook, Illinois, has managed to overcome formidable legal and engineering problems to successfully clone the immortal Apple II. And only Central Point Software, of Portland, Oregon can manage to sell it so cheaply at $579.

The original Laser 128, introduced about two years ago, was a remarkable value. In a package slightly larger than the Apple IIc, and at about half the price, it added a parallel printer port, an RGB video connector and one rather awkward side-mounted slot. Software compatibility grew from good to excellent, thanks to a series of ROM chip upgrades offered to owners at a nominal cost of $25.

The machine was ruggedly built and professionally supported. (Poor product support killed Franklin Computer Company's bid to recapture a share of the Apple clone market.) The Laser 128 also survived legal battles with both Apple Computer, Inc. and Franklin Computer Company over alleged copyright infringements.

The only complaints you ever heard about the Laser were:

1. It's ugly, and
2. The keyboard stinks.

Molded in battleship gray, the boxy, utilitarian case of the Laser lacked the sleek, stylish cuteness of the IIc. On your desktop the Laser looked particularly hideous when accompanied by its expansion box, a tilted sheet metal casket that doubled the slot capacity for about $60. The Laser keyboard offered a numeric keypad, and ten marginally useful function keys (duplicating common control-key combinations), but the feel of the keys was hollow and "clackety." The spacebar sometimes stuck and the key labels tended to wear off on heavily-used letters.

The new Laser 128EX corrects some of these faults, and adds a bunch of new features. The price/performance ratio is outstanding.

The current Laser 128 firmware (ROM version 4.1) is highly compatible with Apple II software. A fact sheet lists over 700 popular titles that have been tested for compatibility. I could not find anything that would not run on the 128EX. Apparently, a few old games use a copy-protection scheme that will not boot on the Laser, but that is not much of a loss. For most users, the only significant hardware incompatibility is the lack of a 16-pin joystick port on the motherboard. Like the Apple IIc, the Laser has a 9-pin connector for either a mouse or a joystick. The Apple mechanical mouse and the Mouse Systems optical mouse both worked fine on the Laser.

The case has been completely redesigned, with rounded corners and bold, diagonal cooling slots. It measures 15 inches wide, 13 inches deep and three inches thick. A tilt stand doubles as a carrying handle. The keyboard is quieter and the keycaps are more sculptured, but the "feel" is not nearly as good as that of the Apple IIe keyboard. One thing that has not changed is the designer's meticulous attention to shielding against radio frequency interference. This is one computer that will not upset your television reception.

Under the hood, the 65C02 microprocessor has been turbocharged with a built-in accelerator that boosts the normal 1 MHz clock rate to as much as 3.6 MHz. (An equivalent accelerator board for the IIe would cost over $200 extra.) Using the accelerator is extremely simple: hold down the "2" key while booting, and the system will run at 2.3 MHz. Hold down the "3" key and it will run at 3.6 MHz (faster than the Apple IIGS, which clocks in at 2.8 MHz). The default speed is the normal 1 MHz, which some software requires to operate correctly.

The new Laser has also swallowed Central Point's Universal Disk Controller, which allows an inexpensive 3.5" microfloppy drive to plug directly into the external drive port. "Inexpensive" here means $225 for a double-sided 800K drive, which is significantly less than Apple demands for a Unidisk and controller card.

The designers have also managed to shoehorn a full one-megabyte RAM card into this little package. *AppleWorks* (version 2.0) recognized this expanded memory with no hesitation and loaded itself right in. On our evaluation unit this RAM board was fully populated, but most buyers will have to open up the computer and add their own chips (a task that is only scary the first time...).

A small metal door on the bottom of the case provides access to the ROM chip and a bank of three DIP switches. One switch flips the power supply from 60 to 50 Hz (in case you ever travel to Europe with your computer).

The Laser 128EX handles its "slots" in an unusual way. One switch toggles "Slot 7" between "internal" and "external" modes. When the slot is internal, it assigns the external drive port to the Universal Disk Controller circuitry. This lets you plug a 3.5" drive directly into the computer. When the slot is "external" you can plug virtually any Apple II circuit card into the side slot of the Laser. The middle DIP switch controls "Slot 5." When this is "internal" the RAM card is enabled. When it is "external" you can use the second slot of the expansion box for almost anything.

The final documentation for the Laser 128EX was not available in time for this review. The original Laser 128 manual was a substantial softcover book with clear, simple explanations, complete pin-outs for all connectors and a detailed reference section on Microsoft BASIC (which is essentially identical to AppleSoft). Video Tech also publishes a Laser Technical Reference Manual, filled with the sort of information software developers need to avoid compatibility problems.

Central Point bundles *Copy II Plus*, an indispensible utility program, with the Laser 128EX. Even if you never intend to duplicate copy-protected software, *Copy II Plus* is worth owning. For example, it can initialize disks in either ProDOS or Apple DOS 3.3 formats, catalog the contents of a disk, and help recover "lost" data. If you do need to back up published software (for archival purposes only) *Copy II Plus* is updated several times a year to beat the latest wrinkles in copy protection.

Central Point also offers a complete line of cables ($25 each) and color-coordinated accessories for the Laser 128EX, including external disk drives, a monitor, a mouse and a carrying case.

The Laser 128EX will start shipping about October 1. Central Point is offering an introductory price of $499 (or $80 off the list price) for an indeterminate period.

Although the 128EX is loaded with built-in features that would be costly add-ons if you bought an Apple, there are a few things this critic would like to see in the *next* version of the machine. A clock/calendar is at the top of the wish list. These things automatically time- and date-stamp your files (under ProDOS). What used to require a sizeable circuit card has now been reduced to little more than a chip, a capacitor and a lithium battery. A built-in graphics screen-dump (found on the competing Franklin Ace 500) would not cost much to add. A built-in track ball would provide all the functionality of a mouse, but without requiring any desk top space for a mouse pad.

The maker of an Apple clone has to offer the buyer a lot more than Apple does in order to make up for the lack of brand-name identity. For the great majority of potential Apple II school and home users, who do not yet need the advanced features of the Apple IIGS, the Laser 128EX would be an excellent choice. They may encounter scorn and derision from owners of "real" Apple IIs, but they can laugh all the way to the bank. (**Central Point Software,** 9700 S.W. Capitol Highway, Suite 100, Portland, Oregon 97219. (503) 244-5782. **Video Technology,** 400 Anthony Trail, Northbrook, Illinois 60062. (800) 551-5742.) ☐

Mike Markowitz is a computer engineer for a large Southern California aerospace firm. He has been writing about Apple II hardware and software since 1984. Copyright © 1987 by Mike Markowitz.

1 THE PLACE WHERE DEALERS SHOP

"Just Great Buys"

Hard Disk Drives and Controllers

RODIME 203E KITS

Adaptec Controller & Drive 47.7 MB	$459
Konan PC/XT Controller & Drive 66 MB	$529
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Konan PC/AT Controller & Drive 66 MB	$539

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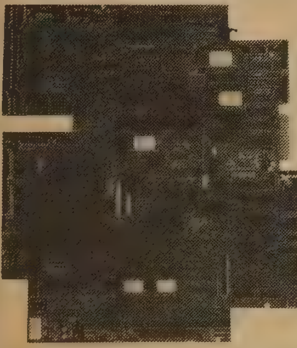
Adaptec Controller & Drive 63 MB	$579
Konan PC/XT Controller & Drive 88 MB	$679
Konan Tandy 1000 Controller & Drive 88 MB	$689
Konan PC/AT Controller & Drive 88 MB	$699

CONTROLLERS ONLY



Adaptec hard Disk Controllers

PC/XT Controller ST506/412	$59
2072 PC/XT RLL	$100
3530 **SCSI** to Tape QIC 36	$99
4000 **SCSI** to ST506/412	$109
4070 **SCSI** to ST506/412 RLL	$129
4520 **SCSI** to ESDI	$139
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5580 **SCSI** to SMD	$450
Manuals	$8 each
Cables Available — Ask for Pricing	

XEBEC

S1410 **SASI** Controller	$99
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Apple II, II+, IIE Host Adapter	$29
Toshiba PC to **SASI/SCSI** Host Adapter	$29
9205 Multibus Hard Disk Controller	$199
9305D IEEE 488 (HPIB) to ST506/412 Controller	$89
1490 **SASI** to SMD Controller	$149

KONAN

KXP203Z PC/XT Controller	$179
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OMTI 20L/C **SASI** Controller	$99
WD 1002-SHD (Xebec Clone) **SASI** Controller	$109
DTC 510A **SASI** Controller	$99
DTC 700 (Shugart 1408-I) Controller	$150
DTC 1404/1404D Controller	$39

HARD DISK DRIVES

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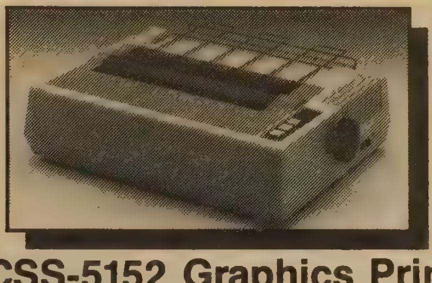

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CSS-5152 Graphics Printer (Epson)

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- Order Cable No. 5132 for IBM — $10.00
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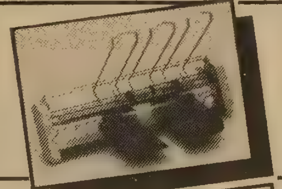

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Sprit 11 Series
Single-Bin
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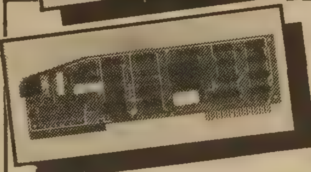
$49.95

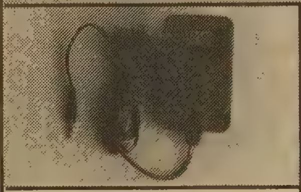


APPLE INTERNAL MODEM

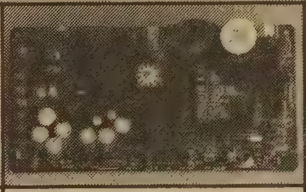
- Apple II, II+, IIE Compatible
- Hayes Compatible
- Manual Included

$19.95

★ ★ SPECIALS ★ ★



Transformer
AC/AC Adapter
8.5 Vac, 1.5A . . . **$5.95**



Power One
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8″ SSDD (No Sleeves)	$.50
8″ SSDD, Pkg. of 20 (No Sleeves)	$10.00
8″ SSSD, Verbatim, Pkg. of 10 with sleeves	$7.50
8″ DSDD (No Sleeves)	$.50
8″ DSDD Verbatim, Pkg. of 10 with sleeves	$7.50
5¼″ DSDD (used once, bulk erased with hub rings, may have labels with sleeves) Box of 20	$5.00
Alignment Diskette, Shugart SA-145 (96 tpi Single Sided)	$7.00
Recording Interchange Diagnostics (RID) for Apple II Family	$19.95

MOTORS

110 Vac Motors (Record Player Type)	10 for $7.00
Stepper Motors 0.24A/ϕ 38Ω 400S/R	$6.95

LOOKING FOR SOMETHING ELSE?

We have a large inventory of New & Used Peripherals, (Terminals, Monitors, Printers, etc.), andd PCB's for many systems, (S100, Multibus, STD Bus, Q Bus, etc.). If you have a requirement give us a call, we may have it.

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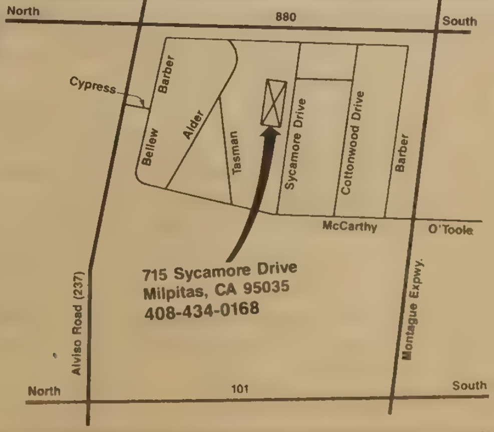

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Mail orders are accepted on all items. Payments can be made via COD, cash, check, money order, Visa, Mastercard, or Discover Card. There is a minimum of $15.00 for credit card orders and a minimum order of $5.00. All orders are subject to stock on hand. All cancelled orders are subject to a 10% restocking fee. All warranties are for repair, replacement or store credit only.

Call for shipping charges.

CP/M

Tips And Resources For The Beleaguered Computerist

By Robert D. Athey Jr.

I get calls and letters containing some good tips, and now it's time to pass them along to you.

If you think it's hard to get information on CP/M computers, what do you do if you own a computer with the S-100 bus, the granddaddy of them all? The S-100 bus (a sort of special connector inside the black box) preceded the CP/M computers; some CP/M machines contain the S-100 bus. Many home-built computers have it as well. Now there's a magazine for users of the S-100 bus computers. It's called the *S-100 Journal,* and it can be reached at P. O. Box 1914, Orem, UT 84057-9954. *MicroCornuCopia* is another magazine that publishes articles and columns on the S-100 systems. They've been at it seven or so years. The publisher is David Thompson, and the address is P. O. Box 223, Bend, OR 97709.

The discussion in the August column of the ON! computer didn't include information as to where it could be purchased or how much it costs. As I had a beta test version, I didn't know. The new Central Computer Products catalog, however, now lists the ON! at less than $2,500, which is a phenomenal buy for 2MB of RAM and circuit protection. Central Computer Products is located at 330 Central Ave., Fillmore, CA 93015, (800) 624-5628 in CA and (800) 533-8049 in the rest of the US. They're good people to deal with.

A user called me to rave about a liquid lubricant for the contacts in a computer. Keyboards are often in need of a cleaner/lubricant, especially when the keys start sticking and you get two "e"s with one strike. Although this only happens to me once in a while, and I suspect I give my keyboard such a workout that I'll break a key before they all get a chance to gum-up, it is a major problem to some users. Cramoline Red Liquid is a cure. It is an anti-oxidizing lubricant and is available from CAIG Labs, P.O. Box J, Escondido, CA 92025. Others swear by WD-40 as a cure-oil; it's available in stores.

If you need help remembering which functions you've assigned to the special keys you've reconfigured with programs like *KSTROKES* or *SMARTKEY,* a solution recently came in the mail. The Hoolean Company makes pressure-sensitive adhesive labels die cut to the size of the top of the key. Some of these labels show two or three different functions in three different colors. To receive a catalog, write or call Hoolean Co., P.O. Box 201, Page Springs Rd., Cornville, AZ 86325, (602) 634-7515.

American Ink Products, the company that re-inks ribbons on trade-in for good prices, has moved from San Francisco to Oakland. Its newsletter tells of the need for more space and provides details of the recent move. Drop them a line at 630 E. 10th St., Oakland, CA 94606, to get on the mailing list.

You may know that I only reluctantly buy anything, let alone the computer goodies offered in catalogs. But there's a switch for computer/printer redirection that is less expensive than any I've seen. Now available for $49 from DAK Industries (800/325-0800), it will hook up two computers to one printer, or two printers to one computer. Since I use both the Kaypro and the ON!, I rigged the switch between them and my Quadram Microfazer print buffer. I suffer no loss of printer capability, but there are a lot of wires behind the apple crate I use for a printer stand.

While we're dealing with mail orders, here's a notice of a ripoff operation in Southern California. Known as Compusystems, this operation located in Beverly Hills has been advertising unbelievable deals. It is currently under investigation for fraud. A user group bulletin board had posted this message along with the tale of a $400 loss by a user.

On the other hand, here are kudos to some good guys. The Echelon people in Fremont are great at sending out updates on their offerings, and have an interesting newsletter. The ON! people have sent me several upgrades (more on the latest in another column after I've had time to digest it), and they often call me to see what's working and what my problems are. When a product from a software company in Arizona developed problems, they requested printouts of the several stages of the glitch so they could diagnose the problem. They sent an upgrade solution disk within a month! It's enough to encourage the curmudgeon computerist to keep at it, and even smile.

Here's an update on several interesting RBBSs. There are two local East Bay cities that have RBBSs providing information for the public. The Richmond city clerk runs one at (415) 620-6500 from 6 pm to 6 am on weekdays. The Berkeley Police Department runs one called The Guardian at (415) 644-6806. Then there's an informational RBBS for the California State Legislature—well, for the Assembly Commerce and Utilities Committees, anyway—at (916) 442-0746. You can get a registration card for that one by mail, at the The Capitol Connection, State Capitol, P.O. Box 942849, Sacramento, CA 94249.

You've seen my interest in statistical treatment packages over the past year. There is an organization that reviews such software and offers comparisons in a newsletter. Not only do they talk about programs for MS-DOS computers, but also for CP/M, Atari, Commodore, Macintosh and Apple, as well. Philip Good is the Editor/Publisher for Information Research Inc., 10367 Paw Paw Lake Dr., Mattawan, MI 49071.

An update on Amstrad, the British company making large RAM CP/M computers. It also makes a PC clone and is marketing it through an organization called Vidco of Longview, TX. You may remember that the 128K RAM version that I reviewed almost two years ago was sold through Sears. Amstrad came through with a 256K and a 512K version last year.

I have my new *Wordstar* 4, and will have an evaluation for you next month. Already debate rages among reviewers on the RBBSs and in the magazines. The adoption of some of the goodies from *NewWord* was really smart.

Let's finish off with some philosophy. The most dangerous thing in a car is the nut behind the wheel. So too with computers, as the nut in front of the keyboard is responsible for the majority of the problems with the software or hardware. The easiest way for you to succeed with your computer is to get a few simple programs, use them often so you know them well, and think of ways to make them more useful by broadening the programs' applications. When you decide to get a new program, spend the hours needed to master both the program and the documentation. That way, if you find a glitch in the program, or feel you'd like a feature, you won't be a total ass in writing to the supplier about it. I was embarrassed once when I asked Newstar's Stan Reynolds for a feature in *NewWord* and he proceeded to show me where it already existed. I'm still learning of the capabilities of programs I've used for years, simply because other users write in or call and share their knowledge. I learn to be humble, at least monthly, and it's hard every time. ☐

Bob Athey has over 20 years of experience working on computers and runs his own company on chemical consulting and contact research. He can be reached through MicroTimes or at (415) 526-3541. Copyright © 1987 by Robert D. Athey Jr. All rights reserved.

Macsimizing Your Business

Authorized Value Added Reseller

. . . a buyers' guide for businesses and professionals

"If it doesn't work it's not worth selling"

—Stacey Reineccius, President
Julian Systems Inc.

When you purchase a computer system for your business, you are purchasing much more than a box to sit on someone's desk; you are purchasing a powerful tool that can do much more than you may expect. You might expect to do accounting, database management, or word processing, but would you expect to:

- Complete an entire print job, including the printing and binding, without leaving your office?
- Coordinate your entire business on a single database (even if you have several stores or locations)?
- Create a complete professional quality song including the mixing and synchronizing with video?
- Create professional quality slides and slide presentations in the privacy and security of your office?
- Create complete audio/video presentations including computer animation and effects?

Would you expect to be able to do all this with the same computer? And for a fraction of the cost of "conventional methods"?

Julian Systems can help you accomplish all that and more.

WHO IS JULIAN SYSTEMS?

Julian Systems is a manufacturer of computer hardware, designer of software, Apple authorized Value Added Reseller (VAR), and consulting company specializing in the Macintosh computer. By specializing in the Macintosh, we insure that we can provide the right answer, at the right time, in the right place when you need assistance. Our unique position as a manufacturer and software design company allows us to bring aspects of expertise and information into the design of your system that other folks have to wait months to even read about.

"If it doesn't work, it's not worth selling." We believe that, and we apply it. When was the last time you bought a product on a salesperson's recommendation without their ever having seen the product? Were you satisfied? Probably not, and very likely it cost you a great deal of money and time. At Julian we will sell no product until we have had the time to thoroughly evaluate and use it ourselves. We do not rely on the reviews or word of mouth. If we have not used it ourselves then we will NOT recommend it, period.

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JET *Julian Express Teletypesetting.*

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If so, try our JET typesetting and duplication service. We will take your Macintosh documents and professionally typeset, duplicate, bind, and still have them back in your hands in 24-48 hours from the time you send them to us. All without leaving your office! And at rates that are as competitive as any you'll find.

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Repair service as you need it.

The time and effort you lose when a computer dies unexpectedly can be a hassle. It is even worse if you do not have a reliable service and repair center to rely on to get you up and running quickly. Our JulianCARE repair and maintenance agreements can help you remove the worry and hassle from your Apple equipment repair. We provide you with cost effective carry-in, and on-site repair for all your Apple equipment. Your repairs are done by Apple Authorized technicians, and in many cases can be completed in less than a day, all at rates that match or beat any around.

■ **Business Systems**:
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Whether it is a telemarketing system to help boost your sales or a system to control your musical keyboard, Julian specialists can help you. We can help you define your systems' requirements, the equipment, the software, and the training your staff will need to operate it. From a single station to a full office with electronic mail, networking, and remote access. We can design it so that it will work for you. Once you review our recommendations and decide to proceed we also help provide the system and make it affordable for you through our comprehensive leasing and credit programs.

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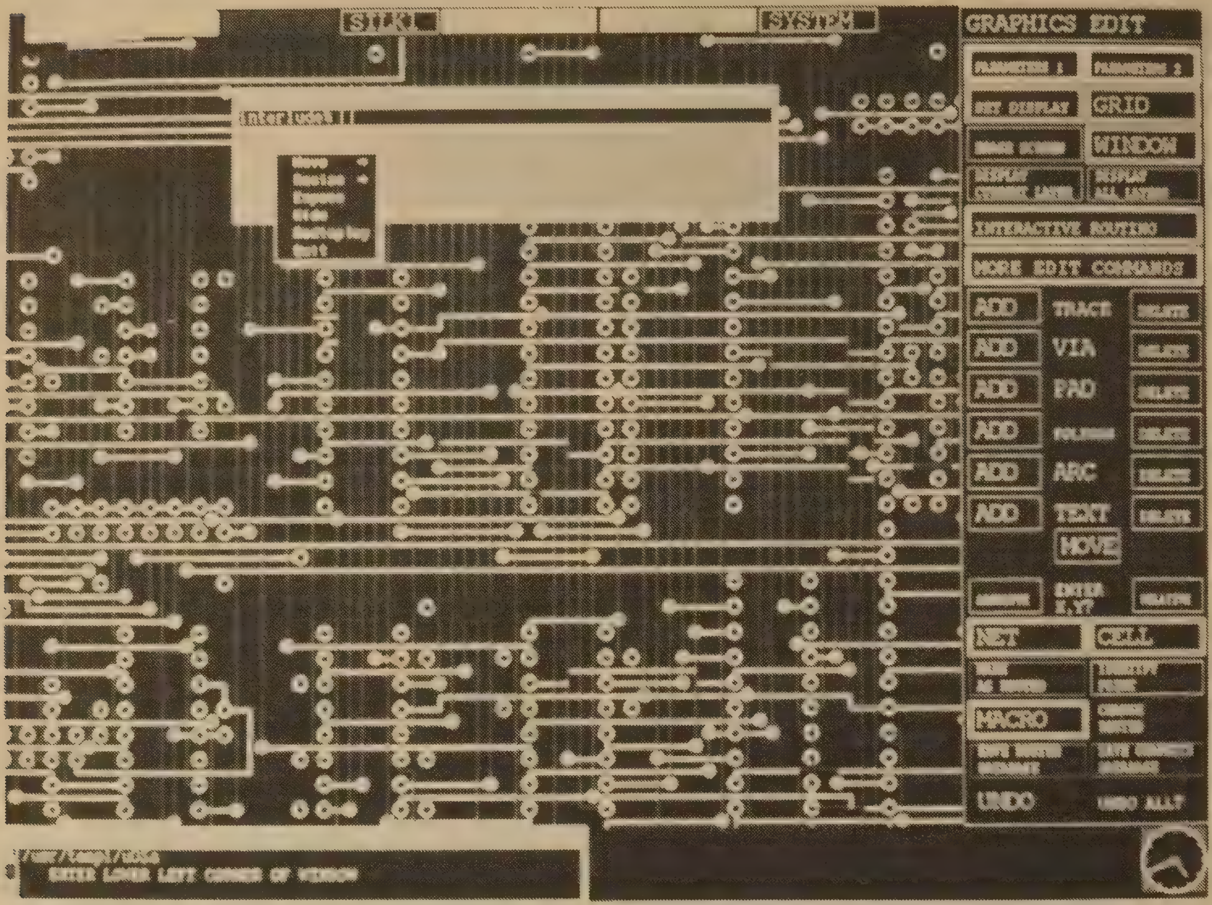
SILK1
SYSTEM
GRAPHICS EDIT
GRID
WINDOW
INTERACTIVE ROUTING
MORE EDIT COMMANDS
ADD
TRACE
ADD
VIA
ADD
PAD
ADD
ADD
ARC
ADD
TEXT
MOVE
ENTER X,Y?
NET
CELL
MACRO
UNDO
UNDO ALL?
ENTER LOWER LEFT CORNER OF WINDOW

Royal Digital's AutoMate Now Runs On Sun Workstations

Royal Digital's design automation software, AutoMate, now runs on the Sun family of workstations. AutoMate is an electronic design solution that includes schematic capture, simulation, automated component placement, autorooting and printed/hybrid circuit layout. AutoMate includes a 32-bit database that permits information to be shared with many CAE, CAM and ATE systems, enabling users to automate such functions as photoplotting, drilling, profiling, component insertion and testing. Royal Digital, 3600 West Bayshore, Palo Alto, CA 94303. (415) 858-0811.

DATA MANAGER And DATA-NET Form Basis For Low Cost Networks

The DATA MANAGER 4x4 and the DATA-NET 1551 from Integrated Marketing Corporation are peripheral sharing products that offer the user increased flexibility in input and output port selection along with serial and parallel compatibility on the same system. The two devices are designed for sharing printers and plotters between different computer workstations. They can also be used for inter-computer communication or in any environment where RS-232 connectivity and controlled port configuration play a role. THE DATA MANAGER 4x4 comes with four serial ports and is expandable to include parallel ports. It is priced at $795. The DATA-NET has 6 serial ports and is priced at $695. Integrated Marketing Corp., 1031-H East Duane Ave., Sunnyvale, CA 94086. (408) 730-1112.

DATA MANAGER
INTEGRATED MARKETING
DATA MANAGER
4 x 4

Baby Blue Is A Low Priced 16-Bit MS-DOS Machine

Baby Blue Computer System's Baby Blue is a 16-bit, MS-DOS machine with 256K of RAM which is expandable to 1 MB. It also includes one 360K floppy disk drive, IBM style 100-key enhanced keyboard with tactile feed-back, an RGB color and composite adapter supporting 640 x 200 graphics, a serial port, a parallel printer port and a game port. The Baby Blue has an 8088-2 micro-processor and lists at $499 without the monitor. Baby Blue Computer Systems, Inc., 303 Hegenberger Road, Oakland, CA 94621. (415) 636-1401.

In Praise Of Faithful Correspondents

By Mary Eisenhart

One of the industry's Great Performances is Acius' **Guy Kawasaki** demonstrating *4th Dimension*. And, reports **Ruth Stever** of the **MacValley Users Group** in Beautiful Downtown Burbank, you can be among those witnessing this very event at MacValley's next meeting. The October general meeting will be held at 7:30 pm on Tuesday, October 20, the cafeteria of Burbank High School, which is located at the corner of Burbank Blvd. and Third St. in—yes, Burbank.

If you'd like more information about this particular meeting, or MacValley's other activities, you can write to P.O. Box 4297, Burbank, CA 91503, or call (818) 848-1277.

Fred Duffy of the **Original Apple Corps** user group in LA came by our booth at AppleFest to make sure we knew that his club, the first Apple user group, was celebrating its tenth anniversary. So now you all know . . . Happy Birthday, Fred et al., and many more. Those interested in the Apple Corps can call Fred at (213) 396-5515 for information.

Fred's a tireless advocate for his group; he first came up to our booth to sing the Corps' praises at the AppleFest in 1985, and has made a regular practice of doing so ever since. Fred's also somewhat unusual among our user group correspondents in that I've actually met him. There seem to be dozens of faithful souls out there who diligently keep us posted on the far-flung activities of usergroupdom. Ruth, for instance, sends us notices with commendable frequency, so as I go through the mail and read the latest MacValley missive, it's with a feeling of "Oh, I know *you* . . ."

So this month's column is devoted to some of these folks, without whom this column wouldn't exist, and the things they had to say for themselves this month.

First, from the extremely apologetic **Eric E. Hayes**, a note that, contrary to information he'd sent us, the **Musician's Network BBS** was *not* moving to (415) 893-5920, but rather to (415) 893-5471; he adds that the board's operating hours will be 6 pm to midnight until he gets a dedicated PC and modem. So if you've been having trouble reaching the Musician's Network lately, try the new number at the appointed time, phone number, and baud rate (300/1200), and your search should be rewarded. Settings are 7 data bits, even parity.

I *love* it when people correct erroneous information that quickly. And so does the luckless owner of 893-5920, probably. Thanks, Eric.

Jason Lin of Santa Monica, who's practically a charter member of the MicroTimes Correspondents, sends word that a change has come upon his board, the erstwhile **Wargames BBS**. Alas, the board's name seemed to provoke more trouble than it was worth — says Jason, "I had some confused hackers calling thinking that it is an illegal BBS."

But also, he adds, the board, which continues to operate at (213) 393-9777 under the name of Beta, has undergone a culture shift: "Another reason I'm changing the name is that the BBS now features articles for audio and videophiles. It has special emphasis on the latest news on the video technology. Other recent additions include movie and concert reviews and music news. **Beta RBBS** is not another downloading service, but a BBS that entertains with informative bulletins and lively discussions between audiophiles and videophiles."

Loyd A. Cribbs, another frequent communicator with *MicroTimes*, has some news about the **San Francisco PC Users Group. Richard Couture** is the sysop of the group's new 24 hour BBS, which is the result of his donating 40 megabytes on his Compaq 386 for the club's use. The board's running at (415) 621-2609, 8-N-1, 300/1200/2400 baud; the board's open to the public for the first call, and subsequent calls require registration. Of course, if you're a member of SFPCUG, you get continual access.

Loyd adds that the club also has a 24-hour voice hotline at (415) 221-9166; a recorded message features the latest information on SFPCUG.

Rick Thrasher, who's been running a listing for his **Christian Macintosh User Group** in San Jose, reports that the group is now averaging five new members per month and meeting monthly on the first Thursday of the month in Santa Clara. The club welcomes Mac users from beginner to hacker level, and Rick invites you to call him if you'd like to know more: (408) 437-1913.

Moving to other business from first-time correspondents: the **City of Richmond** (CA, not VA) now has its own community bulletin board, which can be accessed at (415) 620-6500, 300/1200, 8-N-1. Public Information Officer **Paul Richardson**, who sent us this info, encourages you to call, and also points out that the board has limited operating hours from 6 pm to 6 am weekdays, and all day on weekends.

Called **Richmond OPUS**, the board was established to make city-related information available to the community outside of normal office hours. Information contained on the board includes Council, Commission and Board meetings, a roster of Council members, and announcements of special events and activities. Richmond OPUS also allows callers to leave messages for Council members and city staff.

Richmond OPUS is a six-month pilot project; after six months it'll be evaluated, and its continued existence depends on people *using* it. Therefore (hauling out editorial soapbox): *call this board*. Various governmental agencies, from **Assemblywoman Moore**'s office to the **Berkeley Police Department**, are experimenting with this new medium, which gives unprecedented flexibility and convenience to those wishing to communicate with their legislators. Especially if you live in the affected communities and you'd like your voice to be heard, you owe it to yourself to support these early efforts. As the estimable **Scoop Nisker** has said more than once, "If you don't like the news, go out and make some of your own"—and dialing up your elected officials seems like a good place to start.

In other news, **Grant Rostig** of San Jose invites UNIX enthusiasts to check out the monthly meetings of the **Silicon Valley Net**, which presents speakers on topics of interest to UNIX users. He describes the meetings as an "informal, technical setting where questions are welcome and adds that there's no charge to attend. The meetings take place on the fourth Tuesday of the month at 3000 Hanover, Palo Alto. You can call Grant at (408) 294-5319 for more info.

LA Punk enthusiasts will want to check out the **Flipside BBS** at (213) 693-6971, 300/1200 from midnight to noon. It's the electronic counterpart to *Flipside* (which our informant, **Joe Henderson**, tells us is "LA's oldest punk rock fanzine").

Finally, another cry for help. **Rachel Cohen** of Oakland writes: "I found your ad and thought, 'This is my opportunity to find people who are using **Peachtree** software.'" Apparently she's been looking for fellow Peachtree users to no avail for quite some time now, and has decided to start a group herself. So if you're a Peachtree user looking for kindred spirits, give Rachel a call at (415) 465-3570, or write to P.O. Box 20607.

That's all for this month. Keep those cards, letters, and other fascinating bits of paper coming in to this extremely non-paperless office (5951 Canning St., Oakland, CA 94609) or send us e-mail on The WELL (415/332-6106), where we go by the name of **microx**. ☐

BULLETIN BOARDS

065

Remote Bulletin Board. (065) 242-7669 (Singapore). 24 hours, N-8-1, 300/1200/2400, UL/DL 67 meg. Sysop: Umar A. Rahman.

206

The Board Of Review. (206) 361-8018. 300/1200 baud, 8-N-1, 24-hours, Commodore. Sysop: Ron Strauss..

28 Barbary Lane. (206) 323-2828. 300/1200 baud, 8 bits, 1 Stop Bit, Full Duplex, No Parity, 24-hours. Sysop: Mrs. Madrigal.

209

Region 7 TEC Center BBS. (209) 571-5085. Specializing in music and schools. 24 hrs, 300 baud. Sysop: Dan Guerra.

Inn Finity BBS. (209) 521-6240. Inn Finity is an Atari based BBS. Operates on a 130XE with 320K. Signalman 300/1200/2400 baud, 24 hours a day. ATASCII—ASCII. Sysops Buzz and Jann Kelley.

Bullseye BBS. Stockton, CA. (209) 474-FIDO. IBM and compatibles. 300/1200/2400 baud. Open 24 hours, 8-N-1, FidoNet 161/31 Valley PCUG. Sysop: Bob Loeber. Validation required. Lots of MS-DOS shareware.

The Spotlight BBS. (209) 368-5591. 300 baud, 24 hours, 8-N-1, dual drive Commodore 64 operated. Sysop: The Spot.

Bertha Board. (209) 239-9853. 8-N-1, 300/1200/2400 baud. 24 hours. MS-DOS oriented, with emphasis on programming source code. Free. Sysop: Ken Roach.

Motherload-64 BBS. (209) 754-5530. 8-bit, 1 stop, Punter and X-Modem, D-load, 9:30pm to 6:30am only! 300 baud. Motherload-64 is run by a programmer who is also a Plus/4 owner. Sysop: Larry Anderson.

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Lynzie's Motherboard (818) 508-6482/(213) 650-0519. 24 hours, 300/1200/2400 baud, 8-N-1. Private E-mail, download library, dating matchup, interactive chat between users, 4 phone lines on rotary. Public boards include employment, food and restaurant reviews, sci-fi, political, debate, for sale and many more. Monthly social happenings for local users. Sysop: Lynzie Flynn.

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HUG1. (213) 874-8256. 300/1200 baud, 8-N-1, 24 hours. The official BBS of the Hollywood Commodore User Group (HUG). All HUG members and visitors are welcome to drop by. Sysop: Jose Vasques.

International Collectors Network. Coins, stamps, baseball cards, books, records, antiques and anything collectable can be bought, sold, or traded on the International Collectors Network BBS. Regional lists of collector events and shows in many categories. Also names and addresses of many collector organizations. Accessible using PC Pursuit. Data phone available 24 hours, 7 days at 300/450/1200/2400, 8, N,1. (213) 204-0646.

The Computer Consultant's Network, (213) 479-4074. Running a modified version of Martian! Software. 24 hours a day. This is not a job board, but merely a place for computer professionals to network and share information.

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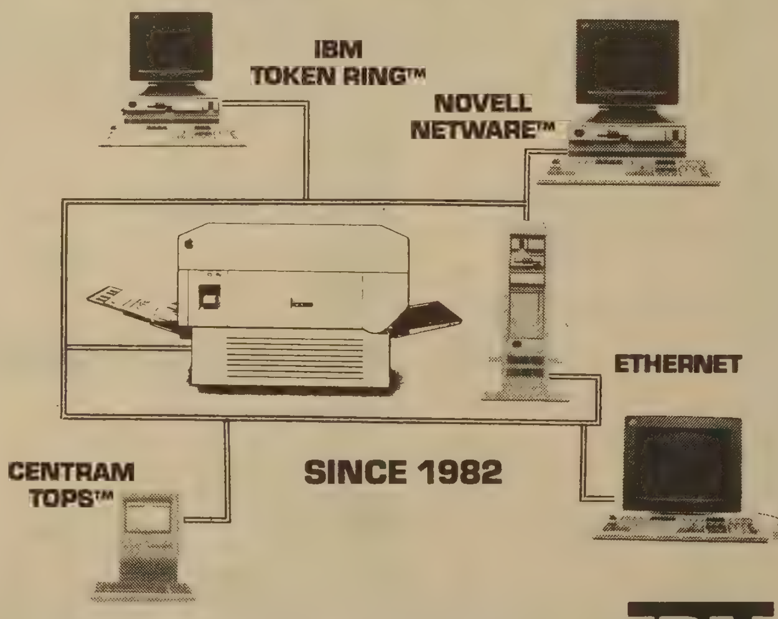

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Bay Area Bulletin Board. (408) 723-7238. 24 hours, world wide net mail, 66 megs of online programs for download, adult message area, several special interest areas. 8-N-1, 300/1200/2400 baud. Sysop: Jim Acker.

DYM #296. (408) 720-0724, 300 baud, 8-N-1. A BBS focused on personal e-mail and friendly exchanges of information. Features user match function and e-mail. five sub-boards including Public, Current Topics, User Activities, and two Adults Only sections. No fees required, but online registration/verification IS required. Sysop: Operator 161.

Computer Tyme. (408) 732-2353. 300/1200/2400 baud, 24 hours. We have conferences dedicated to mass transit topics and also support for compatibles. Sysops: Gary Araki and Eric Rosenberg.

Gino's. (408) 371-2703. 300/1200, Commodore UL and DL. Sysop: Porkchop.

The PET Sematary. (408) 263-3486. Commodore specific, X-Modem, Punter files, XSee. 300/1200 baud, 8-N-1, weekdays 5 pm-10 pm, weekends 10 am-10 pm. Sysop: Grave Robber.

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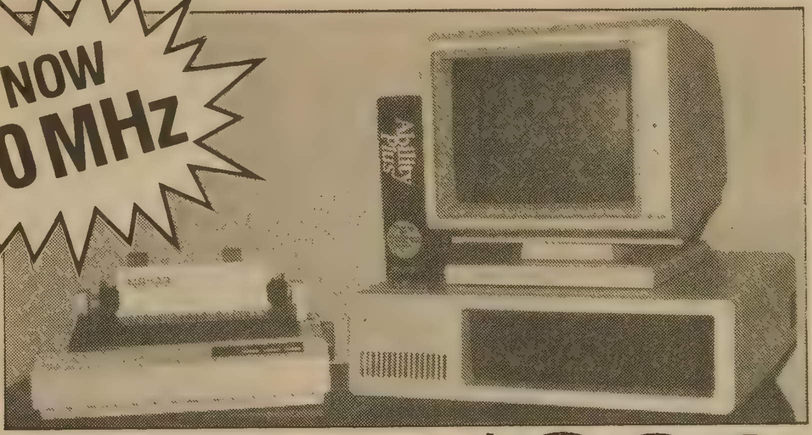

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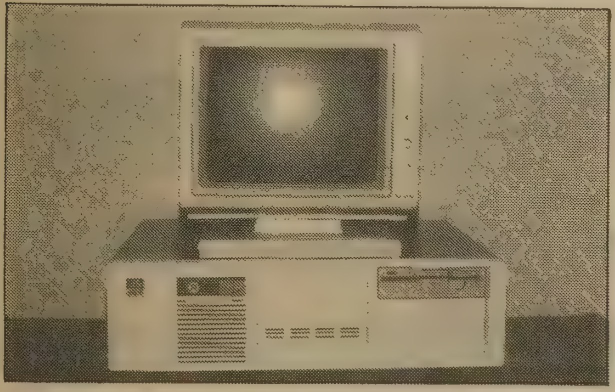

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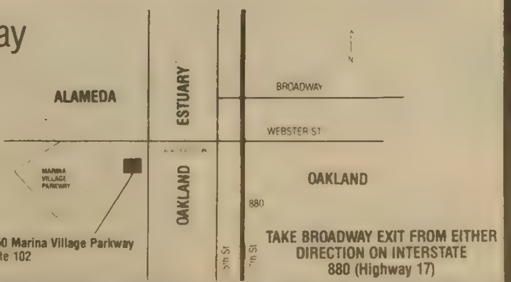

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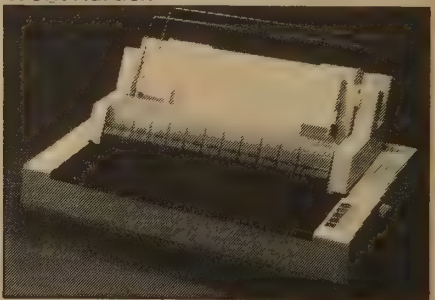

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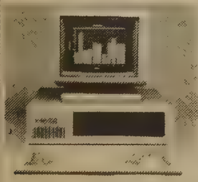

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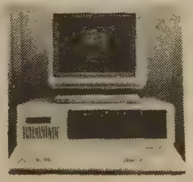

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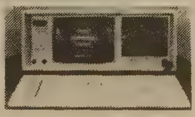

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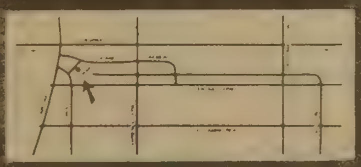

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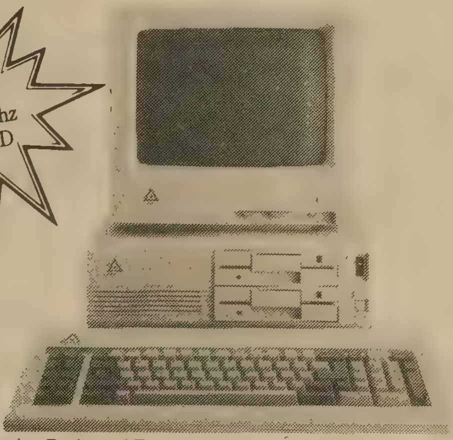

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The Answer Line. (415) 328-FIDO (3436). 300/1200/2400 baud. 24 hours. FIDO 11w BBS, #10/400. Local and FidoNet message areas. IBM, Amiga, Apple IIGS and Macintosh file downloads/help areas, on-line gaming. Call (415) 328-2402 for assistance. Sysop: Gary Klein.

GLEAN's BBS. (415) 441-7613. 300/1200 baud, 8-N-1, 24 hours, 7 days. Information about the National March on Washington for Lesbian and Gay Rights. Transportation, housing, calendar of events, contact numbers, etc.

Autocad RBBS. (415) 547-5264. 300/1200/2400 baud, 24 hours, 7 days. Offering a communications forum, twelve megabytes of Autocad drawing files, Lisp macros, fonts, symbol libraries and related programs available for downloading. Largest private bulletin board dedicated to Autocad in the United States. Special prices on modems with membership.

ABACUS BBS. (415) 587-8062. 300/1200 buad, 24 hours. Atari Bay Area Computer Users Society Bulletin Board. Free messages and downloads for 8-bit & ST users. Sysop: Ed Van Pelt.

Cavern Magica. (415) 222-8671. 300 baud, 24 hours. Sysop: Garet Jax.

The Great Pyramid. (415) 828-7385. 300/1200 baud, 24 hours. Great message bases and online games. Adventure game, voting booth, e-mail system, hundreds of general files and much more. Free to one and all.

Pollonet. (415) 594-9806. 300/1200/2400 baud. N-8-1, 24 hours. A full featured bulletin board offering national conferences on programming communications, applications and photography. Other conferences include finance and investments. A large (over 60 meg) file library with a complete section devoted to financial programs. OPUS CBCS software. The board is located in Belmont, CA and is primarily IBM oriented. All users, however, are welcome as we also have a large national Macintosh conference available. Sysop: Bruce J. Oblander.

Lillypad. (415) 581-9452. 300/1200/2400 baud, 8-N-1, 24 hours, 7 days. A great new BBS. Real time game playing in color for Commodore. Supports VIC, 20, 64, C128, Amiga, CP/M.

Jandel Scientific. (415) 331-6408. 1200 baud, 8-N-1, 24 hours. The bulletin board is basically for registered owners of Sigma-Plot and Sigma-Scan, although people who are interested in what our programs can do should call our bulletin board and leave their name, address, phone number and product of interest. We welcome calls concerning any type of scientific applications programs. Our bulletin board also has a sample graph file that can be output to a plotter. Any questions or comments can be sent to our sysop. Jan.

AT/XT Clone User Group BBS. (415) 552-9070. Sysop: Edwin Rutolt.

Augment BBS. (415) 659-9169. BBS for the Amiga User Group Of Silicon Valley. Sysop: Jim Thomas.

Telenaut BBS. (415) 574-5335. 2400 baud, 8-N-1. Graphic art professionals, designers, illustrators, art directors. Discuss computer graphics and digital delivery of images. PC based software. Sysop David Newman.

Compuchen RBBS. (415) 487-0310. 300/1200/2400 baud. 24 hours, 6 days. Specializes in scientific and engineering topics. We carry AI Expert and Computer Language Magazine's programs. Conferences for ASYST, DADiSP, Sysops and other topics. Doors and 30 megs of downloads. Located in Hayward, CA. Sysop: Russ Fleming.

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Richmond OPUS. (415) 620-6500. 300/1200 baud. 8-N-1. 6:00 am to 6:00 pm daily, 24 hours on weekends. City of Richmond BBS. Public information on city activities. Download information files.

601

Bo's Houseboat. Node 1: (601) 992-4111. Node 2: (601) 992-4338. 300/1200/2400 baud. 8-N-1, 24 hours. RBBS-PC, MS-DOS, IBM. Runs on IBM XT clone, 88 meg hard drive, Sony CD-ROM 512 MG. Over 15,000 files for downloading. Sysop: Bo Trotter, Brandon, MS. 39042.

619

Ramona BBS. (619) 789-6235. 24 hours, 300/1200 baud, C128, C64, Amiga, Atari, IBM, CP/M. P.O. Box 373, Ramona, CA 92065. Sysop: Digiteer.

Sysware BBS. 24 hours, 300/1200 baud, (619) 278-8661. Commodore machines only. Sysop: Don Malette.

The Nassau XPress. (619) 433-XPRS. 8-N-1, 300 baud, 24 hours. An information and entertainment BBS with 11 message bases including electronics, amateur radio, computer news, music, adventure games, BBS review. Full access is granted to long distance callers with same day validation for new users. UL/DL available using XModem or Punter. Private e-mail, text files, online games and utilities. Sysop: Dan Wright.

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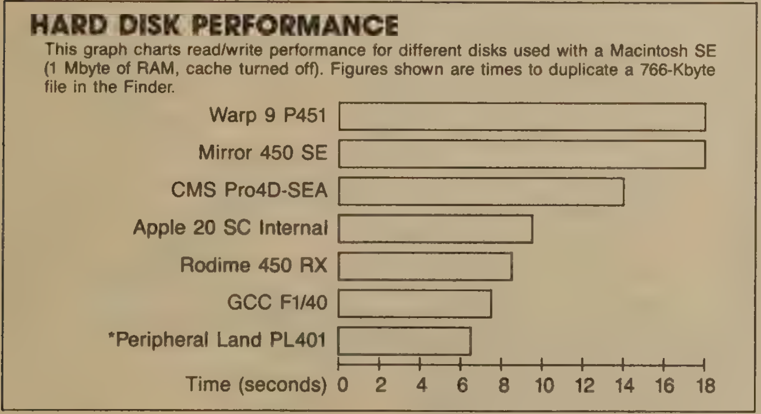
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*The PL40i has been replaced by the PL50i since publication. The new drive is even faster!

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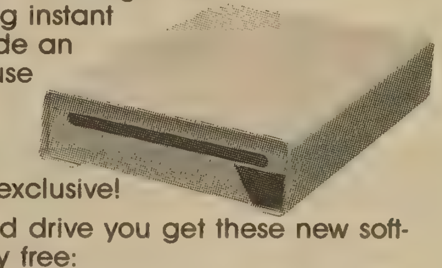

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702

Public Domain Software Interest Group. (702) 794-3665. 24 hours, 300/1200/2400 baud, 8-N-1. Public domain software available for downloading, message board, and user supported donations of software. Sysop: T. Heisserman.

707

Napa Valley RBBS / RCP / M (707) 257-6502. Interests in Atari, Apple, Osborne, dBase II.

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PCUGR Superboard. (707) 546-4938. 300/1200/2400 baud, 8-N-1, 23 hours. Fido-net BBS. BBS for PC Users Group Of The Redwoods. Sysop: Mike Farell.

Short Wave Listener's Guide BBS. (707) 526-0924. 300/1200 baud, 8-N-1, 24 hours. Four boards: Pub Discussion, SWL Signal Reports, Hints & Tips, Hardware Corner, Text files: Eng Lang Bcast Skeds. Sysop: Dave Willey.

714

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The Byte Zone BBS. 7 days, 24 hours, 300/1200 baud. Serves all Tandy computers and many others, including MS-DOS. Features adventure help files, electronic mail, message bases and download menu. Sysop: Franco Collino. (714) 639-3566.

CMC Computer Systems. (714) 835-0910. Information boards: Apple II, Apple III, Laser 128, IBM, Buy/Sell, hard disks. 300/1200 baud, 24 hours. Sysop: Charles F. McConathy.

Amiga-Line. (714) 772-4097. 24 hours, 300/1200 baud. 100% Amiga for Orange County. Sections for graphics, sound, BASIC, ROM kernel, C, Hardware and Games. Sysop: Tom Jacobsen.

Diamond Bar BBS. (714) 923-1031.300/1200/2400 baud, 8-N-1, 24 hours, 365 days. Ten meg online. Affiliated with the Diamond Bar User's Group. Sysop: Jonathan Hart.

The WOCCUG Board. Operated by West Orange County Commodore User Group. EBBS, 8-N-1, 24 hrs, 300/1200. (714) 772-4182. Sysop: Mark Stanford.

The Buckeye BBS. (714) 821-0589. C64, Punter, Xmodem, 300/1200 baud, 24 hours. Sysop: Art Collins.

FBBS. (714) 823-3673. 24 hrs., 300/1200 baud, full duplex. 50 megabyte system based in Fontana. Downloads for Commodore, Amiga, IBM, Atari, Apple, CP/M. 17 active message bases, weekly online magazine. Sysop: Larry Krzewinski.

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Software Exchange. (714) 552-3515. 300/1200/2400, 24 hours, 7 days, 8-N-1. Specializing in public domain and shareware for IBM and compatibles. Over 2000 programs in 122 megabytes on line. Features include private and public message bases, conferences and online help and menu screens. Beta Tester for "Wildcat," the next generation of BBS software. Sysop: John Coon.

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77-Amiga. (714) 77-AMIGA. 300/1200 baud, 24 hours, 40 meg. drive. Sysop: Al Cheser.

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The Pleasure Connection. (714) 773-5326. DYM 502 Buena Park CA. 300/1200 Baud, 24 hours. Computer dating, open forums, adult boards, etc. Sysop: Russ.

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F&W Guns. (714) 653-0494. 300/1200. 8-N-1. Sysop: Louis Ringe.

The Circuit Board. (714) 778-0948. 300/1200/2400, 8-N-1, 24 hours. IBM-PC software. 106 MB disk space. Sysop: Dave Kleinschmidt.

The Amiga Inn. (714) 283-3202. 1200 baud, 8-N-1, 24 hours, 7 days. The Amiga Inn is dedicated to the full line of Amigas: 500s, 1000s and 2000s. Reviews, games, help, etc. All use is free. Please visit the Inn. Innkeeper: Steve Snyder.

1139/South. (714) 545-1706. 300/1200/2400 baud, 8-N-1, 24 hours. Located in Costa Mesa. Sports conferences and file area. Five doors. Sysop: KC.

Color Galaxy BBS: (714) 839-5830. 300/1200 baud. 7-ODD-1. 24 hours. Color Galaxy BBS for the Color Computer! Free access. Supports X-Modem, uploads, downloads, games, adventures, utilities, graphics and more! Ten message bases and private mail, including private uploads to other users. Sysops: Dave Cragun and Tom Guzman.

717

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805

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KERNCOM. (805) 322-8800. 300/1200/2400 baud, 24 hours, 7 days. KERNCOM has operated continuously since March 1983 for the IBM community. KERNCOM is owned by the Kern Independent PC Users Group and is never off line except for routine maintenance. Sysops: Rick Heming and Jim Harrer.

CCCUG BBS. Central Coast Commodore Users Group. (805) 934-2216. 24 hrs/7 days, 300 baud, Punter BBS protocol for downloads. Sysop: Greg Johnson.

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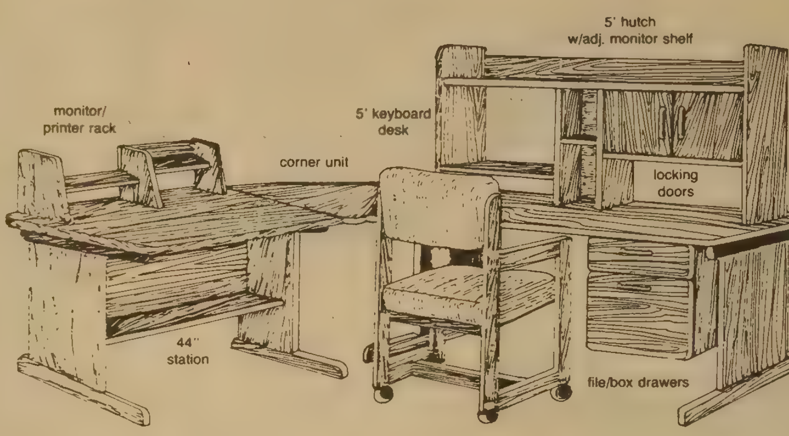

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813

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818

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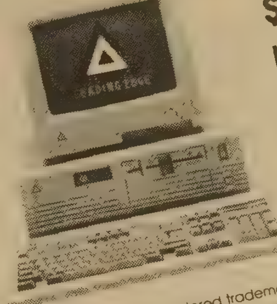

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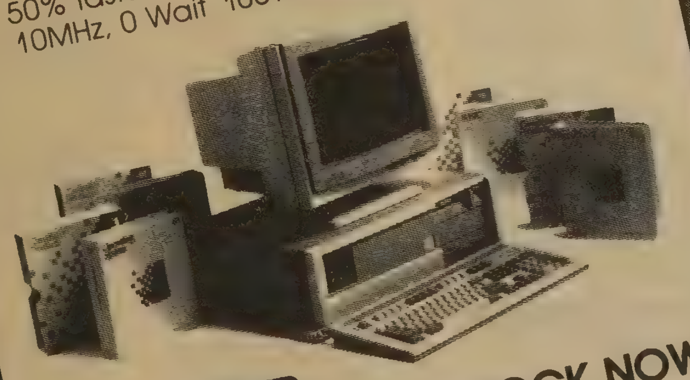

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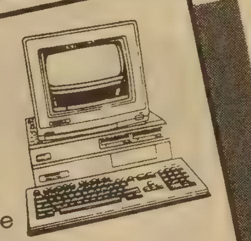

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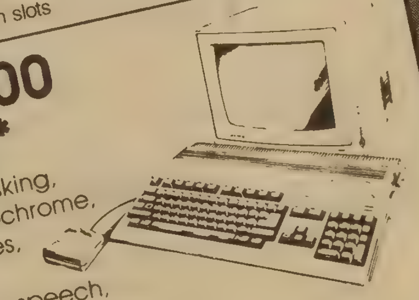

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916

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IEEE Computer Societies Committee on Artificial Intelligence and Expert Systems sponsors an open meeting the third Thursday of every month, 7-10 pm, at Foothill College. For more information please call the IEEE council office at (415) 327-6622.

Computer Professionals For Social Responsibility. P.O. Box 717, Palo Alto, CA 94301. (415) 322-3778.

Computer Professionals For Social Responsibility (East Bay). 902 Rose Ave., Piedmont, CA 94611. Contact Bruce Joffe, (415) 768-0288 days, (415) 654-5263 eves.

FOCUS-MED (Federation of Computer Users in Medicine). Open to all physicians and health professionals. Practice management consultant registry. (415) 626-4600.

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ITRA Independent Technical Representative Association is an organization dedicated to helping people better understand the Personal Computer (IBM). Contact Tim Jones, 870 Market St. 609, San Francisco, CA 94102, (415) 421-4872 for meeting time and date.

MCTUG (formerly Marin County TRS-80 Users' Group). MS-DOS, CP/M and Tandy users group. Meets 7:30 pm on the first Monday of the month at the Larkspur Masonic Lodge, 1122 Magnolia Ave., Larkspur. Contact Dr. Frank Hovell, 907 Sprucewood Court, Petaluma, CA 94952, (707) 762-5740.

PRACSA (Public Remote Access Computer Standards Association) offers to clubs, schools, and user groups a Speakers Bureau. The purpose of the bureau is to act as a resource to these groups in obtaining speakers of high quality for their meetings. The volunteer speaker is provided free to the group. Contact (408) 262-5150. Meetings 4th Wednesday, 7 pm, Vadic Cafeteria, 222 Caspian Dr., Sunnyvale.

San Bruno Computer Core. Meets Wednesdays at 7:30 pm. Call Pete at (415) 952-9309 for address and info.

San Francisco Computer Society (Formerly the San Francisco First Osborne Group). A society for users of portable computers and/or the CP/M operating system. P.O. Box 783, San Francisco, CA 94101-0783. Meetings on fourth Thursday of the month, St. Aidan's Church, Diamond Heights and Goldmine Dr. in SF. All are invited. Dues $10/yr.

Software Entrepreneurs' Forum, PO Box 61031, Palo Alto, CA 94306. (415) 854-7219.

PATCA (Professional & Technical Consultants Association). 1330 S. Bascom Ave., Suite D, San Jose, CA 95128. (408) 287-8703.

BAYMUG. Bay Area MicroProcessor User Group. General computer group, mostly CP/M and S100. All types of interests welcome. Celebrating our 10th year of meetings! Meetings 1441 Rolins Rd., Burlingame, CA, 1st Thursday, 7:30 p.m. Contact Victor K. Bailey, P.O. Box 248, Pleasanton, CA. 94566. (415) 462-4442.

Byte Hum. A user group for computer buffs concerned with human needs, or social activists who want to learn about computers. Let's put all that knowledge to work for social transformation! Sponsored by the Humanist Party. Contact Rick Wall, (415) 495-6555 or (415) 337-2530.

Society for Technical Communication. STC is a professional organization dedicated to furthering the art of technical communication. The San Francisco chapter has about 200 members. Writers, artists and others interested in technical communications are welcome. Meetings 3rd Wednesday of every month, 5:30-8:00 pm; call Sarah Collings, (415) 383-9631 for info or write to P.O. Box 2706, San Francisco, CA 94126.

North Bay Users Group (NBUG). Family computer club devoted to all aspects of computing. Monthly newsletter, library, software demos, etc. Meetings at "CAVE" school, 2nd Tuesday of the month, 7:30-10 pm. Contact Gloria Hutchinson, P.O. Box 7116, Vallejo, CA 94590, or call (707) 644-9327.

Robotics Society of America. Dedicated to disseminating information about robotics, artificial intelligence and machine controls. Mailing address 36 Newell St., San Francisco, CA

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94133, (415) 673-2376. San Francisco chapter meets 2nd Monday of the month, 8 pm, Homestead Savings 5757 Geary Blvd. Contact Jim Strope, (415) 552-6564.

Silicon Valley Computer Society. Meetings 7:30 pm, second Wednesday of the month, Duane and Britton SE corner, Sunnyvale. Contact Dick Verna, (408) 262-2679 for information.

PicoNet. A microcomputer users group. Meets on the second Thursday of each month at 7:30 pm at CMX Corp., 2230 Martin Ave., Santa Clara, CA. Formerly specialized in CP/M software, but has broadened its scope to encompass the entire field of computer-related high technology. Extensive library of CP/M pd software; preparing PC-DOS library. Monthly meetings, periodic newsletter, BBS, C language SIG. Call (408) 374-8090 for recorded message on next meeting's topic.

MicroPsy. Users group devoted to the application of microcomputers in the psychological fields. Meetings first Saturday of the month, noon. Call for information: Martin Schaaf, M.S., (415) 454-6761.

C Group of Northern California. Forming C programmer support group. Group's function will be to exchange information, discuss programming techniques and problems, etc. Anticipate monthly meetings at rotating locations. First meeting to be held 7:30 pm, Tuesday evening, November 4th, in Mill Valley. Call (415) 383-7006, or contact Ben T. Choate III, P.O. Box 1533, Mill Valley, CA 94942.

BADGE-Bay Area Developers Group. Meets third Thursday of every month, 7:30 pm, at Stanford University Building 200, Room 002. Contact Tom Rokicki or Bob Alverson, (415) 326-5312 for information.

California Genealogical Society Computer Interest Group. Meets second Saturday of the month, 300 Brannan St., 4th Floor, San Francisco. Call Bill West (415) 235-6107 for information.

Hebrew Users Group., Supporting the use of Hebrew and Hebrew-based languages on computers. Contact Jack Love, (415) 845-7793 (Berkeley Hillel).

Gay/Lesbian PC Users Group. We meet on the second Sunday of each month. This is the group where we show our hardware and software and share our knowledge. All levels of users are welcome. Meeting place is the MCC San Francisco, 150 Eureka Street. For more info, contact Jim at P.O. Box 42429, San Francisco, CA 94101, (415) 334-9761.

ComputerRooters. ComputerRooters' purpose is to foster the science of genealogy through educational and research programs. Among other things we show how you can use your computer to further genealogical research. Our library of computer diskettes ranges from useful public utility programs to shareware genealogy programs and is constantly being expanded. Contact Maxine Roberts at P.O. Box 161693, Sacramento, CA 95816. BBS: (916) 685-8690 (Dynasty BBS). 300/1200/2400 baud, 8-N-1, 24 hours.

International Interactive Communications Society (IICS). San Francisco Bay Area Chapter meets the second Tuesday of each month. Meetings alternate between San Francisco and Mountain View. National Office: 2120 Steiner St. San Francisco, CA 94115. (415) 922-0214. San Francisco Bay Area Chapter: P.O. Box 1372, San Carlos, CA 94070. Hot Line: (415) 328-7318.

Bay Area Automated Mapping Assoc. (BAAMA). An association of vendors, users, consultants and students who are interested in computerized mapping and database management. Meetings occur on odd numbered months at various locations throughout the great bay area. P.O. Box 1427, Mill Valley, CA 94942. Contact Jake Armstrong, 1195 Third Street, Room 125, Napa, CA 94558. (707) 253-4351.

NFL-FOOTBALL: Free Open Organization To Better All League Logistics. New power algorithm to develop. Open to all. A bulletin board to go on line on Sept. 13, 1987. Will improve your understanding of the finer points of football performance. Meet once a month to get things started. Join a team research group. Opportunity to brush up on your programming skills, amateur or professional. Call the Construction factory for more information. Or send SASE for full particulars. The Construction Factory, 115 Aspen Drive, Pacheco, CA 94553. (415) 685-9366 or (415) 432-4526.

NATIONAL/ INTERNATIONAL

Network Users Association. 2111 Eisenhower Ave., Suite 400, Alexandria, VA 22314. (800) 638-8510 or (703) 683-8500.

TPUG World's largest Commodore Users Group. $25 annual membership entitles you to access to library of public domain software for C-64, VIC 20, PET, CBM, SuperPET, B-128. Coming soon Plus 4, C-16, C-128. New disks added each month. Also TPUG Magazine (10 per year), free access to TPUG's Bulletin Board Modem System, 24 hours, 7 days. TPUG Inc., 5300 Young St., Willowdale, Ontario, Canada M2N5R2, (416) 733-2933.

Apple Co-op. 290 SW 43rd, Renton, WA 98055. (201) 251-5222.

JUG (Jefferson State Computer Users Group). Many SIGs, newsletter. Dues $5.00 year, some SIGs additional. Contact JUG, P.O. Box 457, Gold Hill, OR 97525-0457.

MicroPro Users Group of America. National group with over 200 members worldwide. Dedicated to supporting MicroPro products, especially WordStar and InfoStar, for any hardware. c/o Procyon Associates, 140 Riverside Drive, New York, NY 10024. (212) 595-4811.

Golden Apple Club, Apple II and Macintosh. Contact Stefano Minotto, Golden Apple Club, Riviera Tiso da Camposanpiero, 26, 35100 Padua, Italy.

F.O.G. 15,000 member group supporting all CP/M users. Dues of $24.00/yr. include 60-80 pg. FOGHORN monthly's access to 270+ disk library, 40+ RCP/M systems, and back issues; and a technical support hotline. All meetings conducted by 140+ local groups. Gale P. Rhoades, P.O. Box 3474, Daly City, CA 94015, (415) 755-2000.

Getec s.r.l. Contact Silvio Esengrini, Via dei Guarneri Nr. 24,-20141 Milan, Italy. Phone: 39/2/5696502, 39/21 5694185.

Italtel S.p.a. Contact Michelangello Sala, C.Na, Castelletto, 20090 Settimo Milanese, Milan, Italy. Phone 39-2-4388-4288.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

KAPPA (Memphis Kaypro Users Group). Meetings at 2 pm, 1st Saturday of the month, Room 2, Jennings Hall. Contact Hugh Lamar, 5983 Macon Cove, Memphis, TN. (901) 377-4140.

The AppleWorks Users Group (TAWUG). c/o Regional Rep, 27421 Berenda Way, Hayward, CA 94544, (415) 887-7499.

FORTH Interest Group, International Office. P.O. Box 8231, San Jose, CA 95155. For further information call (408) 277-0668.

Apricot User Group (APRICUG). Box 98, Malverne, NY 11565.

Spellbinder Users' Group has an international newsletter with useful macros written by members, advice on new applications, news, and word-processing problem solving. All experience levels. California members welcome. Write P.O. Box 14, Newark, Notts, England NG24 4TP; telephone (0636) 77313; telecom Gold/Dialcom Mailbox 72: MAG95610.

National TeleVideo Users Group. Meets 7:30 pm, 3rd Thursday, 1170 Morse Ave., Sunnyvale. P.O. Box 22007, San Francisco, CA 94122. Call for info—David, (415) 753-1552.

Apple Fontrix Club. Monthly newsletter. P.O. Box 29857, Thornton, CO 80229-0857.

N.A.B.V.I.C.U. - The National Association of Blind and Visually Impaired Computer Users. The purpose of this group is to gather information that will assist the blind or visually impaired person in utilizing the enormous potential of computers. It supports **Compu-Help**, a menu driven database-bulletin board programmed for use by the blind and visually impaired. It is available 24 hours a day, 7-days a week, 300/1200 baud, 8 or 7 bits, even or no parity, 1 stop bit. (916) 786-3923. Compuhelp is also available on disks. For more info, contact Otto C. Haiungs, Chief Executive Officer, Sysop, at P.O. Box 1352, Roseville, CA 95661-1352. (916) 783-0364.

28 Barbary Lane. Meets at 121 13th Ave. East, Seattle, WA, Fridays 8:00 pm. Contact A. Madrigal, (206) 323-2828. BBS: (206) 323-2828.

MICROenvironment: Microenvironmental Information Consortium For Researchers Overseas. World Headquarters, 712 Avery Rd. W. Winlock, Washington 98596, USA. Washington phone: (206) 262-0159. California phone: (415) 524-9309. Micro on MCI mail, ECONET & WELL TELEX number 6502928733 via WUI.

American Computer Users Temporarily in Europe (A.C.U.T.E). Going overseas or already there? We are a users group dedicated to helping you better adjust and understand how to survive in the overseas environment with your computer system. We show you how to find things you will need at reduced member prices. We also consult firms and developers on how to make software more acceptable to the international market. We do foreign language translation of computer software and provide referral services. Further information available by mail: A.C.U.T.E., Postfach 4, D-8818 Lehrberg, West Germany.

Folklife Terminal Club. Almost Free Software. An international Commodore computer users group, with members in more than twelve countries, has made its software library available to other user groups and individuals. The club has issued new catalogs of software from its archives which contain more than 6,000 public domain programs. The programs are stored on diskettes and are usable in various configurations of PET, CBM, VIC, C-64, PLUS 4 and C-128 computers. The software itself is free. The first diskette that should be ordered is the new "CATALOG DISK" which contains an automatic disk cataloging program, a listing of all the available programs, complete instructions and Associate Membership in the club. There is a copying and mailing fee of $15 per diskette. Please specify which computer and disk drive you have. Contact Folklife Terminal Club, Box 555-DN, Co-op City Station, Bronx, NY 10475.

Miami PC User Group. Meets at 16400 N.W. 32nd Ave, Miami, FL. Second and fourth Wednesdays at 8:00 pm. Contact Jeffrey Feinberg, 2500 E. Hollandale Beach Blvd., Hollandale, FL 33009. (305) 457-7744.

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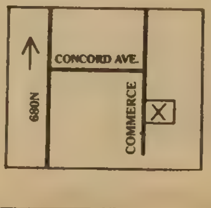

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USER GROUPS

APL

APLBUG (APL Bay Area Users' Group) has monthly meetings and a newsletter for people interested in APL (A Programming Language). It meets the third Monday of each month at 7:30 pm in the offices of I.P. Sharp Associates, 220 California Avenue, Palo Alto. Annual dues are $15. Contact Curtis Jones, (408) 292-4060, for information.

AT&T

Bay Area AT&T PC6300 Users' Group. Demos, technical help and more. Meeting time and location varies. Contact Joe Mahoney (415) 586-8376 or Maurice Aranda, (415) 972-5436.

ACTRIX

ACTRIX Computer Enthusiast Society. Membership ($20/yr) provides public domain software, group rates, discounts for owners of Actrix/Access Matrix microcomputers. Meetings at Sunnyvale Community Center, last Wednesday of the month, 7 pm. Contact K. Edward Lynch, 1405 Phelps Ave. #29, San Jose 95117, (408) 756-5104, for more information.

ADAM

Coleco Adam Users Group. For info send SASE to: CAUG, 2316 Stuart St., Berkeley, CA 94705. Voice (415) 549-3437, data (415) 549-3378.

South Bay ADAM Users' Group. Now forming a users' group exclusively for the ADAM enthusiast in the south bay area. Call Steve for more info at (408) 253-4190.

East Bay ADAM Group. Forming an ADAM users group in the East Bay area. Call Tom for more information — (415) 886-2884, or write 6097 Slopeview Ct., Castro Valley, CA 94552.

AMIGA

First Amiga User Group. We offer demonstrations of software and hardware, a public domain library, and general user help at our monthly meetings, which are held on the first Tuesday of each month in Belmont, CA. Meeting address 1300 Fifth Ave., Belmont, CA, 94070, 7 pm, first Tuesday of the month. Contact Tim Avery/Kayvan Pejooh, (415) 595-5452.

First Amiga User Group the South Bay. End-users, enthusiasts, developers and programmers all welcome. Meetings 2nd Fridays, library, 40 N. Milpitas Blvd., Milpitas, 7-9 pm. Contact Jim Thomas, P.O. 1863, Fremont, CA 94538, (415) 651-0201. BBS (415) 659-9169.

ACCESS. The Amiga and Commodore Computer EnthusiastS Society (ACCESS) holds its meetings on the 3rd Wednesday of the month in Room 107 of the Chabot Building in Hacienda Business Park, Pleasanton, CA. Contact Skip Perkins, (415) 443-4778 for information.

Sacramento Amiga Computer Club (SACC). Meets the second Wednesday of each month at the Sacramento Municipal Utility District (SMUD) auditorium, 6201 S. St. just off Hwy 50 at the 59th or 65th St. exit, 7 pm. For more information call George Leone, president, at (916) 944-7400 or write to SACC, P.O. Box 19784, Sacramento CA 95819-0784.

Amiga East Bay Info Exchange (AEBIE). P.O. Box 485, Pinole, CA 94564. For end users in the West County, North and/or East Bay area.

AD-Amiga Developers Group. Meets the last Monday of each month at 6 pm, 2618 Telegraph Ave., Berkeley, (415) 845-4814.

AEBUG-Amiga East Bay User Group. The Original Users Group meets the second Wednesday of each month at 2618 Telegraph Ave., Berkeley, 7 pm. (415) 845-4814 for information; BBS (415) 845-4812.

AUGment, the Amiga User's Group of Silicon Valley. Meets every second Friday, 7:30 pm, at Milpitas City Library, 40 North Milpitas Blvd., Milpitas. Video Production, C programming, and hardware SIGs. Contact Jim Thomas, P.O. Box 1863, Fremont, CA 94538-0186. (415) 651-1160. BBS: (415) 659-9169.

Amiga Addicts Anonymous. Meets the fourth Tuesday of each month, 7:30 pm, at 1331 Concord Ave., Concord (CCC Water District) CA. Q&A session begins at 7:00 pm. For more into, contact Jeff Chase, president, P.O. Box 4669, Walnut Creek, CA 94596. (415) 933-0217. BBS: (415) 283-5469.

AUM-Amiga Users of Marin. Meets the third Wednesday of each month, 7:30, at the College of Marin, Science Center, #190, Kentfield, CA. For more info, contact Bob Galvan, 119 Willow, Corte Madera, CA 94925. (415) 924-5384.

Stockton - Modesto Amiga Users Group (SMAUG). Meets last Wednesday of each month at 3525 Benjamin Holt Drive, Central Lounge, Willow Glen Apts., Stockton, 7:30pm. For information call Rainer Kummerle. (209) 957-8620.

ASCITEC: The Amiga Science and Technology Users Group. Meets second Thursday, 5:00-7:00 pm, at Lockheed in Sunnyvale, B/147, Room 4-C. Scientific/Video Applications. P.O. Box 201, Los Altos, CA 94023. (408) 742-9110.

San Francisco Commodore User Group (SFCUG). Meets the last Thursday of each month, 7:30 pm, at the Embarcadero YMCA near Steuart and Howard. All Commodore computer enthusiasts welcome. PD library, classes, in-depth demonstrations, eprom programmer, BBS-ET (415) 861-4485. Contact Malcolm Lowe, (415) 832-1539.

NBUG (North Bay Users Group). Contact Jim Stephens, president, 124 Delgado St., Vallejo, CA 94591, or write P.O. Box 7116, Vallejo, CA 945

Santa Rosa Commodore Group. Walter Saures, I dent, 333 East Robles Santa Rosa, CA 95407

APPLE

San Francisco Apple Core Special Interest Groups, BBS, large public domain software library, newsletter, help network. For meeting and current events information, call (415) 771-5830. Recorded message 24 hours, live person sometimes during business hours. Leave name and address to receive information. Draconet BBS (415) 781-6645 modem line.

The AppleWorks Users Group. c/o TAWUG Regional Rep., 27421 Berenda Way, Hayward, CA 94544.

SPCA (Society For The Prevention of Cruelty To Apples) Apple user/interest group. Features: Monthly meeting with newsletter, raffle and door prize hard / software, demonstrations, lectures, discussions, $20 per year, pro-rated after June. Meetings last Wednesday of month, 7:30 pm. Contact Paul Meyerholtz for info (415) 490-8209.

Association of Apple 32 Users Macintosh, Lisa. An association of "knowledge workers" who wish to share information on products, applications, and events. User-developed, non-copyrighted software, SIGS, newsletter. P.O. Box 634, Santa Clara, CA 95052.

San Leandro Apple Eaters Users Group. Apple II users group meets the first Thursday of each month at San Leandro High School (room 213). New owners to experienced users welcome: Appleworks, education, hardware/software, telecommunications. Call Open Campus BBS area 11 (415-895-0135) or voice (415-782-9250) for more information.

Pen-Apple (Peninsula Apple Users Group) Meetings 2nd Thursday each month at 7:30 pm, Ampex Corporation cafeteria, 421 Broadway, Redwood City. Contact Pierre Testart, (415) 952-9309.

Diablo Valley Apple Users. Apple II family users and Macintosh users. Special Interest Groups meet monthly. Featuring a library of public domain software collection and our own Club's DOM's, monthly newsletter, group buys of hardware and software as well as monthly demos of new products. Meetings held on 1st and 3rd Friday each month at 7 pm at the Willow Creek Center, 1026 Mohr Lane in Concord. Contact Merle Zmak, president, P.O. Box 5031 Concord, CA 94524, or call (415) 672-7596 for additional information.

South Peninsula Apple Computer Enthusiasts (c/o David Harris, P.O. Box 1257, Palo Alto, CA 94302) meets near the Varian Credit Union, Bldg. 4C, 611 Hansen Way, Palo Alto, at 7:30 pm on the first Tuesday of every month to exchange information about available hardware, software, events, publications, and methods on Apples, and to encourage collaboration on projects. Call (415) 856-9126 answering machine takes 30-second messages.

Roseville Apple Core. Discover your Apple's Core! We meet on the second Wednesday and fourth Tuesday of each month, 7:00, at SMUD Foothills Bldg., Training Room D, at Don Julio and Elkhorn. There are additional SIG meetings for AppleWorks, BASIC, Telcom and Macintosh. We also feature a monthly bulletin, large public domain library, and new member's disk, all for just $12 yearly membership. C'mon out and bring a friend. For more info, contact Bruce McLeod, president, P.O. Box 1377, Roseville, CA 94551. (916) 723-6422.

Apple Sac. (Sacramento) Meetings on first Wednesday and third Tuesday every month at Madison School, 5241 Harrison St. (corner Harrison and Madison Ave. 1/4 mile west of 180 on Madison Ave.), 7:30 pm. Contact Ray Beam, president, P.O. Box 254645, Sacramento, CA 95825, (916) 448-6115 for more information.

Stanislaus Apple Group. You're invited! Stanislaus Apple Group meets 2nd Tuesday each month, 7 pm, Room 124 Ag Bldg, Modesto JC, main campus. We support Apple II and compatibles, Apple III, Mac, Lisa. Newsletter, BBS (209-529-3202), extensive PD software library. More info call (209) 523-7289 (eves).

Santa Cruz Apple User's Group meets at Cabrillo College, Aptos, ILC building, 1:30 pm, second Sunday of the month. For information contact Tim Ruckle, president, (408) 462-3154.

Apple Gardens. New Apple II users group. Share info, programs, group purchases. Brand name disk, new products, software demos and evaluations. Call Tom Turley at (415) 468-4045.

Apple P.I.E. Meets at Lynbrook High School, Room 30, 1280 Johnson Ave., San Jose, 4th Thursdays, 7:30 pm. Contact George Ingalls, P.O. Box 2185, Santa Clara, CA 95055.

ATUNC-Apple Three Users of Northern California. Explanations, demos, large public domain library. Mailing address: P.O. Box 1528, Mill Valley, CA 94942. On Apex and Draconet BBSs.

Apple East Bay Users. Meets the first Tuesday of each month at 2618 Telegraph Avenue, Berkeley, at 7 pm. (415) 845-4814 for information; BBS (415) 845-4812.

Apple Pickers of Sonoma County. Meets second Saturday of each month, 1735 Shuhaw Hall, SRJC, 1 pm. Call for sample newsletter: Mary Lou Mayes, (707) 763-8322.

TVAUG-Tri Valley Apple II User's Group. Meets on the first Thursday of each month, 6:30 at 7079 Commerce Circle,

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UNIX

continued from page 118

The "mail" command given above assumes that the sender's machine calls ebmudd directly, and this isn't always the case. Electronic mail can be routed through a number of machines. For example, hapless, whose account is on ebmudd, might send something like the following:

```
mail pluto!mars!saturn!jupiter!fred
```

Here, Fred has an account on the computer named jupiter. Hapless' computer ebmudd doesn't have a direct connection to jupiter, but it does call pluto, which calls mars, which calls saturn, which calls jupiter. Hapless' mail to Fred will be transferred from machine to machine until it reaches its destination. How quickly the mail moves from ebmudd to jupiter will depend on how often these machines call each other.

This exchange of mail will use cpu time and disk space on all the machines the mail passes through, but the intervening machines (pluto, mars, and saturn) don't need to know anything about either Hapless or Fred to pass their mail along.

In addition to electronic mail, it is also possible to use "uucp" to request file transfers between machines and "uux" to request remote execution of programs. The syntax of these commands is largely the same as that for mail:

```
uucp remote\!\~/filename !~
```

This command copies a file from mars to my local machine. Note that this file transfer requires a publicly accessible directory on both machines. By convention UUCP has used /usr/spool/uucppublic. Once the file transfer is completed, the recipient is responsible for moving the file out of the public directory.

A request for remote execution looks like this:

```
uux remote\!lpr < file
```

This command will queue the file named "file" for printing on the machine named "remote." This kind of command is particularly useful as a way of making scarce resources available to a larger group of users. (The above command would enable several UNIX computers to share a single laser printer.) Remote execution of programs is a powerful feature that is by default restricted to only a few commands. It's wise to check with the system administrator in advance before experimenting with remote execution.

Hints For Using UUCP

While using UUCP is not very hard, it is certainly not user friendly in the modern sense of the term.

The single biggest obstacle to using UUCP effectively is having to piece together the names of the machines through which your mail will be routed. You can always find out which maines your computer calls with the "uuname" command. Just typing "uuname" will display a list of the UUCP connections your current machine has. If for any reason you're unclear about the node name of your current machine, "uuname -l" will display it.

Finding connections beyond the computers you can address directly will be primarily a trial and error process. You can shorten this process a little by paying attention to the routing of any mail you receive from other sites. If you get enthused with piecing together UUCP pathways, you should read the "comp.mail.maps" newsgroup on USENET and take advantage of the "pathalias" utility.

Another problem area for many users is tracking the status of UUCP requests. In some circumstances, undeliverable mail will be returned to the sender. The status of any request for remote execution of a program will be returned (by e-mail) to the user who requested the job.

Apart from these reports, the best hope for tracking what has happened to your UUCP requests is to monitor the connections between your system and the computers it calls directly. UUCP provides the uulog utility (and in some versions another program named uustat) for just this purpose. You can display the log of your system's contacts with another system with "uulog":

```
uulog -s pluto
```

This command would print the time and result of recent calls to pluto. The information returned by uulog is straight from the log files maintained by uucico. The log files are generally kept in /usr/spool/uucp or one of its subdirectories. The exact location will depend on which version of UUCP is installed at your site. uulog will work regardless of the log files' location.

In recent versions of UUCP (the Honey-DanBer or HDB version distributed by AT&T), "uustat" will provide not only human readable reports of UUCP activity but some control over jobs already queued as well. Check the manual entry for uustat at your site for details.

UUCP networks rely on the willingness of computer sites to receive, store and forward jobs destined for other machines. As already noted, providing this service uses cpu and disk resources which may be in short supply. If you're going to use UUCP, be careful not to make excessive demands on the machines your work passes through. Good computer citizenship is especially important for UUCP users: not only does it promote good will, it also results in a more responsive network. □

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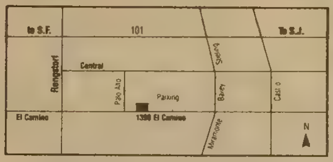

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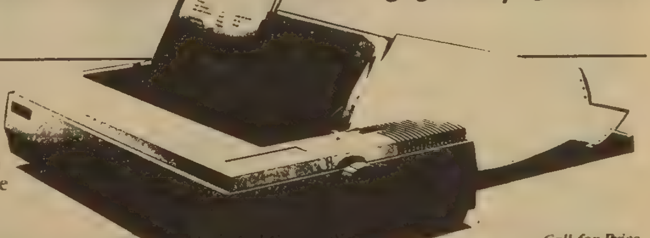

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Apple Blossom User Group. Meets 1st and 3rd Wednesday of each month at 7 pm at 290 International Circle, San Jose CA 95119. All Apple users welcome. Apple II, II+, IIc, IIe, III and Macintosh. No matter which Apple you have we have a group for you. Contact Ray Enochs, P.O. Box 53323, San Jose CA 95153. (408) 723-9141. ABUG BBS (408) 227-3993.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont. 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

ASHTON-TATE

Framework/Editor Bay Area Users Group (FREDBUG) Purpose of the group is to share programming and applications techniques under FRAMEWORK for the business and technical professional. Call for info: Rudi Wiedemann, (408) 730-4159.

San Francisco dBase User Group For advanced users and programmers. Meets once per month. Membership required for attendance. Contact Frank A. De Coster, 1100 Gough St., San Francisco, CA 94109, (415) 474-6693.

East Bay dBASE Users Group. Meets 3rd Sunday, 1 pm. Call Darrell Bross (415)873-7522 or Alexandra Saur (415)893-7637 for meeting address.

dBase II/III SIG of SF PC Users Group meets third Monday of each month, 7-8 pm, Fort Mason, San Francisco. Contact Ron Freshman, (415) 459-6613.

DBDVLPRS (dBaseIII Program Developers). Call for information on meeting time and location: Gil Orlik, (415) 931-0377, 2240 Buchanan St., SF 94115.

ATARI

ABACUS (Atari Bay Area Computer Users Society) All ATARI users or prospective users are welcome. Membership ($15/year) provides public domain software, low cost blank disks, monthly newsletter, group prices on hardware and software, help from experts, low cost classes for beginners. Meetings first Saturday of the month, Fort Mason, SF, Room 300, Bldg. C, 10 am-2 pm. Contact Bill Zinn, P.O. Box 1823, Mill Valley, CA 94941. (415) 753-8483. BBS: (415) 587-8062.

A.C.M.E. (Atari Computer Marin Enthusiasts) Meets monthly in Marin, third Thursday evening monthly from 7 pm on. Gallinas School, 177 N. San Pedro Rd., San Rafael. Contact Bruce Frank, (415) 435-6020, P.O. Box 222, Tiburon, CA 94920.

Diablo Valley Atari Computer Enthusiasts (D.A.C.E.) Meets the first Thrusday of the month at 7:00pm at the Contra Costa Water District Building conference room in Concord. Meetings free. $20 yearly membership comes with newsletter, discounts, raffle tickets. For information contact Mike at (415) 798-6565.

Bay Area Atari Users Group We have a 24-hour 300/1200 baud BBS at (408) 249-7722. Meetings at Bracher School Cafeteria, corner of Bowers and Chromite, Santa Clara, CA, first Monday of the month. Contact Frank Nagle, P.O. Box 50459, Palo Alto, CA 94303, (415) 791-5461 for more info.

San Leandro Computer Club Although open to all computer users, this group is primarily oriented to Atari computer owners. Our club is considered one of the best in the country, worthy of consideration by both novices and experts. Meetings 1st Tuesday of the month at San Leandro Community Library, 300 Estudillo Ave., San Leandro, CA. Contact Phil Mitchell, P.O. Box 1525, San Leandro, CA 94577-0152 for more info, or call (415) 351-2208.

COAST User Group (California Original Atari ST). Public domain disks, MIDI, support, newsletter, help for the Atari ST line of computers. Advice and programs not to miss. Meetings on the 3rd Wednesday of each month, at The Berkeley Conference Center, 2105 Bancroft in Berkeley, CA, 7:00 pm, 6:30 for beginners. $1.00 admission for non-members. EaST COAST meets 2nd Tuesday of the month at 1015 Esther Drive, Pleasant Hill, 7:30 pm. Members only. Dues $30.00 yr. Contact Chuck Thorp, president, 1015 Esther Drive, Pleasant Hill, CA 94523, (415) 945-1949 for information.

Redwood Atari Group (R.A.G.) Meets 4th Saturday, 1-4 pm, at Coddingtown Meeting Room, 1100-B Coddingtown Center, Santa Rosa. Contact Mikkel Lawrence, (707)585-3949, 21 Creekwood Sq., Rohnert Park 94928.

E.S.C.A.P.E. (Enthusiastic Santa Cruz Atari Programmers Exchange). Full software and hardware support of both the ST and 8-bit computers. For information call (408) 688-6538 or Jim Montoya (408) 423-5190 or write, 76 Rancho Del Mar Shopping Center, Aptos, CA 95003.

ATTACHE

Attache UNL Otrona may be dead, but the Attache Users News Letter Lives ON!! Contact Jim Ayers, 301 Poplar St., Mill Valley, CA 94941. (415) 388-4805. Meetings 7:30 pm, 2nd Wednesday.

First Attache User Group News. Support, news, and cooperation for users of Otrona Attache and 2001 portable computers. Since '82. Contact Charles Raisch, 1827 Haight St. Suite 16, San Francisco, Ca 94117, (415) 221-3415.

AUTOCAD

AutoCAD Users Group. Call Gen Katz (415) 530-8870 for information about future meetings.

AutoCAD User Group. Call Volker Ackermann, (415) 485-0958 for information.

AutoCAD Users Group of Santa Cruz. Meetings held at Citicorp conference room, 806 Ocean Street, Santa Cruz, 7-9 pm, 1st and 3rd Tuesday of the month. Call (408) 462-0448 for information.

BASIS

Bay BUG Basis 108 Users meet every first Friday of the month at College of Alameda Computer Room, 7:30 pm. Contact Roger Bernhardt, 536 Mission, San Francisco or call (415) 221-0262 for more information.

BONDWELL

Bondwell Users Unite! Trying to start group, need your help. All levels welcome. Meeting address 405 Stierlin Rd. #17, Mountain View. Time and date to be announced. Call Tom Gatlin at (415) 961-0450 for more information.

BPI

Bay Area BPI Users Group meets the fourth Tuesday of each month. For more information contact Mitch Paioff, 5097 Tisdale Way, San Jose, CA 95130, (408) 866-4310.

CANNON

Cannon AS 100. Anyone who owns a Cannon AS-100 computer and is interested in forming a group to share problems and solutions write HTF-4111 Hilltop, Vacaville, CA 95688.

CASIO

Casio Research Project. Discussion and collaboration; creation of plug-in expansion board using VLSI chip. Share programs. Meetings TBA. Contact Julius M. Zebrowski, (415) 969-9458.

CCS DESIGNER

CCS Designer CAD User Group. CCS Designer user group forming. All those interested call (415) 692-7250.

COMMODORE

San Francisco Commodore Users Group (SFCUG). Meets the last Thursday of each month, 7:30 pm, at the Embarcadero YMCA near Steuart and Howard. All Commodore computer enthusiasts welcome. PD library, classes, in-depth demonstration, eprom programmer, BBS-ET (415) 861-4485. Contact Malcolm Lowe, (415) 832-1539.

Diablo Valley Commodore Users Group Meetings Contra Costa Water District Auditorium, 1331 Concord Ave., Concord, CA, second Thursday of month at 7:30 pm. Write DVCUG, P.O. Box 27155, Concord, CA 94527, or call (415) 686-4049 for more info.

Napa Valley Commodore Computer Club Meets first and third Mondays, 7:30 pm, at Northwood Elementary School, 2214 Berk St., Napa. Take Redwood Road to Dover St. to Berk St. Contact President Dick Bull (707) 257-3773 or vice-president Roger Pruym (707) 253-1690 for more info.

Lake County Commodore Users Group Contact Al Reuss, P.O. Box 388, Clearlake, CA 95422.

Marin Commodore Club Meets at Redwood High School, Corte Madera. Visitors welcome. Contact Elmer Johnson for information: 665 Las Colindas, San Rafael, (415) 479-0426.

The Commodore Connection User Group. (CCUG) Meetings at Homestead Savings, 14th and "A" St., Antioch, 3rd Monday of the month, 7:30 pm. Contact Walt Moxely, 2229 Santa Maria Drive, Pittsburg, CA 94565. (415) 458-3318. BBS: (415) 458-1005, Commodore only, 24 hours, 300/1200.

Commodore User's Group of Hayward. For information write P.O. Box 2072, San Leandro, CA 94577.

NBUG (North Bay Users Group). Contact Jim Stephens, president, 124 Delgado St., Vallejo, CA 94591, or write P.O. Box 7116, Vallejo, CA 94590.

Santa Rosa Commodore Users Group. Walter Saures, President, 333 East Robles Ave., Santa Rosa, CA 95407-7921. (707) 584-7009. Information line, (707) 526-6464 SRCUG-BBS.

Family Roots Searchers. Using Commodore SX-64 computer, Dynax DX-15, PractCalc II, Word Pro 3 Plus, Family Tree. Meetings by appointment only. Vera Ross, Atchison Village, Richmond, CA 94801-2942, (415) 235-8716.

PLUG (The Plus/4 Users' Group). Dedicated solely to support of the Commodore Plus/4. No regular meetings, 200 members in US, Canada, Mexico, and Europe. Newsletter, public domain software library. P.O. Box 1001, Monterey, CA 93942.

Silicon Valley Commodore Computer Club. Meets 4th Wednesdays, H.P., 5301 Stevens Creek Blvd. at Lawrence, 7 pm. Contact Roger Weiss, (408) 942-2442.

ACCESS. The Amiga and Commodore Computer EnthusiastS Society (ACCESS) holds its meetings on the 3rd Wednesday of the month in Room 107 of the Chabot Building in Hacienda Business Park, Pleasanton, CA. Contact Skip Perkins, (415) 443-4778 for information.

C.O.W. Commodore Owners Workshop. Meets at the San Bruno Rec Center (in San Bruno Park) the third Thursday of every month from 7-10 pm. Machines welcome. We have a huge PD library that users can check out. We usually have demos each meeting; we have BASIC programming classes and help each other along. For further information call the San Bruno Parks and Rec at (415) 588-1201.

Fairfield Commodore User Group. Meetings Solano County Education Bldg., 1st and 3rd Mondays. Contact Ben Harris, 1182 Dana Dr. Fairfield 94533, (707) 422-1669.

FUNHUG — Fremont, Union City, Newark, Hayward Users Group. A user organized, user operated, user group not affiliated with any computer or software manufacturer or distributor. We have a Commodore and an IBM section in our group. Group meets every third Wednesday at 7:30 at 5445 Central Ave., Suite 4, Newark.

64/MORE, San Jose Chapter. Meets the first Sunday of each month from 6 pm to 9 pm at Mercury Savings and Loan, 859 Blossom Hill Road, San Jose. For further information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

64/MORE, North Valley Chapter. Meets the second Saturday of each month from 10 am to noon at the Milpitas Public Library, 40 Milpitas Boulevard, Milpitas. For information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

64/MORE, Cupertino Chapter. Meets the third Saturday of each month from 3 pm to 6 pm at the Saratoga Public Library, 13650 Saratoga Avenue, Saratoga. For further information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

64/MORE, Campbell Chapter. Meets the fourth Tuesday of each month from 6:30 pm to 9:30 pm at the Santa Clara County Public Health Building, 2220 Moorpark Avenue, San Jose. For further information call (408) 945-4327 or Night Owl BBS (408) 253-2295.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont. 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

CO-OP: Commodore Owners of the Peninsula. Meets third Saturday of the month, 1:00-4:00 pm, at the Foster City Recreation Center, Room 103, 650 Shell Blvd., (corner of E. Hillsdale Blvd.), Foster City, CA 94404. Membership $25/year. Non-members, $2/meeting. Contact P.O. Box 280495, San Francisco, CA 94128. (415) 595-8770.

CLIPPER

Bay Area Clipper User Group. The newly formed BACUG is the only user group in Northern California affiliated with Nantucket, developers of Clipper. It will operate as a SIG of the San Francisco PC Users Group. All persons interested are invited to attend the meetings. Entry is free to BACUG members; guests will be charged $5. For meeting times and locations contact Mike Pelladino at (415) 751-2719.

COMPAQ

SF Compaq Users Group is now a SIG of the SF IBM PC Users Group. For information please call D. Blow at (415) 221-2764.

COMPUPRO

Berkeley Compupro. Berkeley Compupro User Group meets 4th Thursday every other month. Company Reps attend meetings. For more information call Barry at (415) 665-4733.

Hayward Compupro Users Group. Meets 3rd Saturday of every month in Hayward, California. Sponsored by Automation Sciences International. Meetings held at 22532 Foothill Blvd., Hayward, between 'B' and 'A' Streets. You may call (voice) (415) 886-2980 or (modem) (415) 886-4734. The CP/M Connection for further information." Topics include: hardware & software problem identification and solution, upgrades, new products, CP/M, CCP/M, ZCPR and getting the most out of application software. Other users and interested parties are welcome. Group founder: Michael D. Lipshutz.

COMPUTER ASSOCIATES

Computer Associates Users Group of Northern California. Meets third Wednesday of every other month, 6:00-7:30 pm, at the Solvenian Hall, 2101 Mariposa Street, San Francisco. For local Computer Associates Software users looking for extended support. Sponsored by J.C. Lukrich & Co. Contact Beth E. Markus (415) 864-6770.

DATAFLEX

Dataflex User Group. For more information call Alex at (415) 433-7944.

DEC

Silicon Valley DEC PC Users Group. Meets 2nd Wednesdays 7–9 pm at Kierulff Systems 1180 Murphy Avenue, San Jose. Contact Gary Catalano (408) 275-1133.

DYNABYTE

Dynabyte Announcing M.A.D., Mutual Assistance, Dynabyters (Dinosaurians?) For owners of this orphan Z80 S100 machine. Call Woody McPheeters, (415) 548-3126 or write 3128 King St., Berkeley, CA 94703.

EAGLE

Eagle Computer Users Group. P.O. Box 3381, Saratoga, CA 95070, (408) 972-1965. General meetings are held on the second Saturday of the month at Tandem Computer H.R. Training Room at 10300 N. Tantau Ave., Cupertino, from 9:30 am to 12:00 noon.

Screaming Eagles User Group For 8 and 16 bit Eagles. Quarterly newsletter, public domain disk. On CompuServe (CLUB) Sec. 3. $10/year individual, $20/year business. 101 Parnassus #1, San Francisco, CA 94117. (Voice) (415) 661-4362.

Eagle Computer Users Group —ECUG. Meets 2nd Mondays, 7 pm, 6132—66th Ave. (Southgate Library), Sacramento. Contact W. Jud Boies, P.O. Box 163506, Sacramento, CA 95816, (916) 443-1060.

ENABLE

ENABLE Users' Group. Supporting users of Enable, the integrated software package. Monthly meetings in San Francisco (contact Evan Christensen, 415/469-1863) and Walnut Creek (contact Sandi Baker, 415/944-0426).

EPSON

Epson Users of San Francisco Bay Area Epson group has nationally circulated newsletter Valnews: 400 members mostly QX-10 owners, growing software library. Meetings focus on mutual support. Mainly Valdocs and other applications. Meetings first Thursdays. 7 p.m. Fort Mason Center, Bldg. C, Room 205, San Francisco. Contact Alan Magary, 904 Irving St., Suite 271, San Francisco CA 94122, (415) 661-9270.

Napa Valley Epson Users Group 1307 Hestia Way, Napa, CA 94558, (707) 253-8727.

FORTH

FORTH Interest Group, Berkeley Chapter. Meets 2nd Saturday of the month at 1 pm, 10 Evans Hall, UC Berkeley. Contact Mike Perry, (415) 644-3421.

FORTH Interest Group, Monterey/Salinas Chapter. Contact Bud Devins, (408) 633-3253.

FORTH Interest Group, Sacramento Chapter. Meets 2nd Tuesday of the month, 7 pm, 170B 59th St., Room C. Contact Tom Ghormley (916) 444-7775.

FORTH Interest Group, Bay Area Chapter. Meets 4th Saturday of the month, 10 am advanced, 1 pm beginning, at ABC Christian School Auditorium, Dartmouth and San Carlos Ave., San Carlos (408) 277-0668.

FORTH Interest Group, Stockton chapter. Contact Doug Dillon (209) 931-2448.

GAVILAN

Gavilan User Group. Meets 2nd Thursday, 7 pm, Lockheed Bldg 162. Sunnyvale, CA. Contact R.W. Brown, 780 Manx Ave., Campbell, CA, (408) 379-2774. Gavilan BBS (408) 374-3974, 300/1200, 24 hours, free.

HEATHKIT

San Jose Heathkit Users Group. Meets first Wednesday at 7 pm at the Heathkit store on South Bascom Ave. in Campbell.

B.A.H.U.G. Bay Area Heath Users. Heath/Zenith computers, ZDOS, PC-DOS, CP/M and MS-DOS. Meetings at 2001 Middlefield Rd., Redwood City, CA, 7 pm, 2nd Tuesday of each month.

NBHZUG North Bay Heath/Zenith Users Group. Devoted to Heath/Zenith computers in specific and MS-DOS, CP/M computers in general. Beginners and advanced. Meeting place varies, time 2nd Saturday, noon. Contact Martin Schaaf, (415) 454-6761 for information.

HEWLETT-PACKARD

Bay CHHU, HP Laptop & Handhelds. Meets 2nd Saturday of the month. Contact Jim Horn (707) 523-4890 or Michael Felsenstein (415) 564-8279.

INTEREX is the International Association of Hewlett-Packard Computer Users, with affiliated users worldwide approaching 10,000. Acting as an information resource for users of HP computers (HP3000, 1000, 900 and Series 100), INTEREX maintains libraries of user contributed software. The software is available through the CSL membership categories. INTEREX has three publications, one or two for each of the categories. Phone (408) 738-4848 or write User Services Department, 680 Almanor Ave., Sunnyvale, CA 94086.

IBM

South County PC Users Group Meetings held second Thursday of each month at St. Clements School Library, 730 Calhoun St., Hayward. Public Domain and shareware disks, newsletter. Contact Bob McCloud (415) 537-9899.

Silicon Valley Computer Society. New users SIG, 7:30 pm, 2nd Wednesday at Hewlett-Packard Co., Bldg. 50, 5301 Stevens Creek Blvd.; call Dick Meyer, (408) 723-0159. dBASE III SIG, 7:30 pm, 4th Thursday; call Thaine and Barbara Anderson, (415) 345-0152. WordPerfect SIG 7:30 pm, date variable; call Martin Van Derpool, (408) 238-8434. Software tools and graphics SIG, 7:30 pm, 4th Tuesdays; call Hal Sampson, (408) 866-7833. Artificial Intelligence SIG, 7:30 pm, 2nd Thursdays; call Kent Byron, (415) 656-0410. Telecom SIG, 7:30 pm, 1st Monday; call Scott Sawicki, (408) 243-8781. Lotus 1-2-3/Symphony SIG, 7:30 pm, 3rd Thursday; call Bill Welch, (408) 247-3405. C programming SIG, 7 pm, 3rd Tuesday; call Fletcher Johnson, (408) 946-0960.

California PC LAN Users Group, 1625 The Alameda, Suite 511, San Jose, CA 95126. (408) 289-1711.

Diablo Valley PC. An IBM PC User Group, monthly meetings, newsletter and public domain software library. Contact Jim McDonnel, president, 2261 North Main St. 117, Walnut Creek, CA 94596, (415) 933-1270.

The Bay Area Computer Society Emphasis on IBM PCs, networking and multi-user sys-

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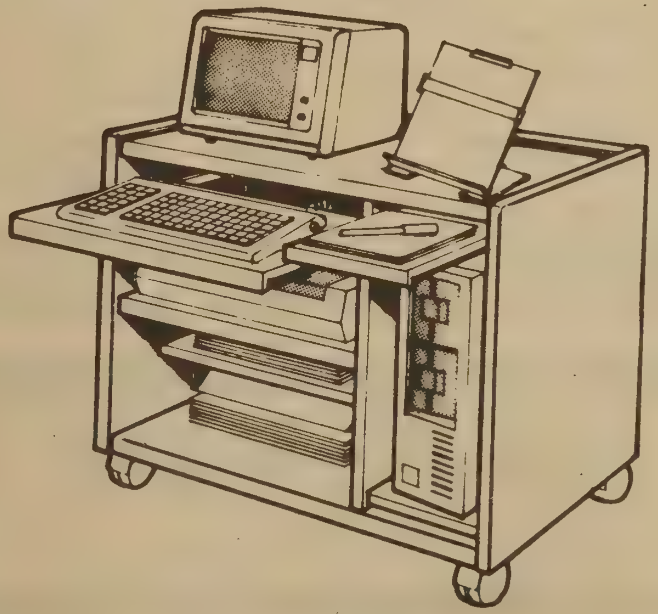

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tems. P.O. Box 20583, Oakland, CA 94604, (415) 839-5786.

IBM PC Users Group of the Redwoods. Meets on the second Thursday of the month, 7:00 pm, at Santa Rosa Veterans Memorial Bldg. Anyone interested in PCs and/or compatibles is welcome. Contact Michael Adams, P.O. Box 1009, Rohnert Park, CA 94928. (707) 664-8320. BBS (707) 546-4938.

Sacramento PC Users Group. Over 1000 members. Meetings at Holiday Inn Holidome, 5321 Date Ave., 7 pm, 3rd Wednesday. Contact Barney McCauley, P.O. Box 685, Citrus Heights, CA 95610, (916) 484-1048, or call the club number (916) 332-1944.

SF PC jr User Group meets monthly. Lectures and discussions on the usage of IBM PC jr software and hardware. Software and books library. For more information please send SASE to 2336 Market St., Suite 20, San Francisco, CA 94114. Meetings at 1550 Bay St., SF, every first Sunday at 7:30 pm.

San Francisco PC Users Group. Largest SF group focusing on IBM and compatibles. Over 150 disks of public domain software, excellent monthly newsletter. 800+ members, $30 yr. Write 3145 Geary Box 155, San Francisco, CA 94118. Meetings 8 pm, 3rd Mondays, Bldg A Fort Mason.

Monterey Bay PCjr Users Group. Meets at Legacy Computers, 431 Tyler, Monterey, CA 93940. Usually meets second Thursday of the month. Contact Lloyd Reece, (408) 899-5795. Mail to Box 1191, Seaside, CA 93955.

Valley PC Users Group. Individuals and corporate users of the IBM PC and compatibles; guest speakers from major vendors, public domain software, exchange problems and solutions. BBS 24 hours (209) 952-5021. Meeting address 731 Brookside Road, UOP School of Pharmacy, Rotunda Bldg., Stockton, 7 pm, 1st Tuesday. Contact Francis Pillow, P.O. Box 77748, Stockton, CA 95207, (209) 478-9697.

FUNHUG PC—Fremont, Union City, Newark, Hayward User Group. For recreational/home users of IBM PC and compatibles. We meet on the third Wednesday of each month at the Fremont Main Library, 39770 Paseo Padre, Fremont, CA at 7:30 pm. We have software/hardware demonstrations and visits from manufacturers. Our library contains over 350 disks of public domain software. There are no dues, beginners are always welcome. For more info and map send SASE to Russ Fisher, 36015 Pizarro Dr., Fremont, CA 94536.

Marin-Sonoma PC Users Group. Meets last Tuesday of the month, 7:30 pm, in the Whistlestop building, 930 Tamalpais St., San Rafael, CA. Park in Savings and Loan parking lot across the street. Classes, SIGs, 24 hour BBS at 415/927-1216. Emphasis on business applications and solutions. For additional information contact John Hawkins (415) 525-8500, P.O. Box 6476, San Rafael, CA 94903.

Santa Cruz Computer Society. Meets on the third Thursday of the month, 7:00 pm, at Center 2000, 2nd floor of the Palomar Hotel, 1344 Pacific Ave., Santa Cruz. For beginning to advanced users and programmers. Demos, reviews, solutions and classes on commercial, shareware and public domain programs. Special Interest Groups. Contact Kasandra Fox (408) 425-1494.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

IBM Compatible User Group of Silicon Valley. Meets monthly to share information about IBM compatible or clone computers. BBS (408)287-8326, 300/1200, 5:30 pm-7:30 am M-F, 24 hours weekends. Call (408) 287-8325 for information, or write to 1515 The Alameda, Suite 303, San Jose, CA 95126.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont. 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

Berkeley P.C. Users Group. Meets on the 2nd Monday of each month, 7:00 pm, at 2618 Telegraph Avenue, Berkeley. For more info, contact Mel Mann, 1145 Walnut Street, Berkeley, CA 94707, (415) 527-2177 or Andy Wong, 2618 Telegraph Ave., Berkeley, CA (415) 845-4814.

IBM AT/XT Clone Users Group. Meets second Monday of every month, 7:00-9:00 pm, at Bldg. 'E', room 287, Fort Mason Center in San Francisco. $25 annual membership includes newsletter. Group focuses on clone hardware and support. Contact Philip James, P.O. Box 15000/324, San Francisco, CA 94115. Voice: 861-9321. BBS: (415) 552-9070.

Mid-Peninsula IBM PC Club. For IBM employees only. Contact George Halle (415) 855-3474 or Scott Maiden (415) 855-4509.

SACTO PCjr Group. Meets on the 4th Tuesday of each month at SMUD Bldg., 59th and Folsom Blvd., Sacramento, at 7:15pm.

CADVANTAGE - Cadvance Users Group. Meets at Mitchell Park Community Center, 300 Middlefield Road, Palo Alto. 7/22/87, 10/21/87, 1/20/88, 7:00pm to 10:00pm. PC CADD for architectural/facility designers. Current users and/or those contemplating CADD are welcome. Meetings take place once every quarter.

BAYPUG-Bay Area P-CAD Users Group. Meets P-CAD 1290 Parkmoor, San Jose. 7/30/87, 10/29/87, 1/28/88, 9:00am to 1:00pm. PC CADD for PCB/CAE Designers. Current users and/or those contemplating CADD are welcome. Meetings take place once every quarter.

The Blacksmiths-ANVIL 1000 MD Users. Meets at Mitchell Park Community Center, 300 Middlefield Road, Palo Alto. 7/15/87, 10/14/87, 1/13/88, 7:00pm to 10:00pm. PC CADD for Mechanical Drafting and Engineering designers. Current users and/or those contemplating CADD are welcome. Meetings take place once every quarter.

Stanford/Palo Alto PC Users Group. Meets last Wednesday of the month at 8:00 pm, Polya Hall, Turing Auditorium (Room 111), Stanford.

The IBM & Compatibles User Group (ICUG). A mail based group which has a monthly newsletter. Not for PCjrs. Large public domain software library, with great bargains. Members communicate through newsletter. $5.00/yr. fee. It's Worth It! Contact Daniel Tuma, 30 Arjang Ct., Alamo, CA 94507-2041.

Monterey Bay User Group IBM-PC (MBUG). Meets third Thursday of the month, 7:00 pm, at Seaside Library, 550 Harcourt Ave., Seaside, CA. Also Special Interest Groups meet every Wednesday, 7:00 pm, at 542 Archer St., Monterey, CA. A writer's SIG meets on the fourth Thursday of the month, 7:00 pm, at the Monterey Public Library, 625 Pacific St., Monterey. We have a large shareware library, annual auction and Christmas party. Contact Fred Brownell at (408) 373-6345.

KAYFUN: Peninsula Computer Club. Meets second Thursday of every month at 7:30 pm in the ground floor social room, 222 Laurel St., #310, San Carlos. Supporting the MS-DOS & CP/M communities. Bimonthly newsletter, large CP/M and MS-DOS public domain libraries, and computer publication library. See BBS listing for KAYFUN BBS. Contact Larry Welling at (415) 593-9981.

KAYPRO

BAKUP (Bay Area Kaypro Users and Programmers). One of largest Kaypro user groups in country. Meet 3rd Tuesday of month, 7:15 pm, at 846 Masonic, Albany, CA. We support our RBBS/RCPM for members, publish a monthly newsletter, have a 40 volume software library, and a lot of fellow KP'ers! Write for info, $10 per year to join. Contact Woody McPheeters. P.O. Box 20181, Oakland, CA 94620. (415) 548-3126. BBS: (415) 849-9389.

KAYFUN Peninsula Kaypro Users Group meets second Thursday of every month at 7:30 pm in the ground floor social room, 222 Laurel St., #310, San Carlos. Bimonthly newsletter, large CP/M and MS-DOS public domain software libraries, and computer publication library. See BBS listing for KAYFUN BBS. Contact Larry Welling at (415) 593-9981.

South Bay Kaypro Users Group (SBKUG). Meetings at 10400 Torre Ave., Cupertino. We have an extensive library of public domain software, including over 200 diskettes of the SIG/M library. The floor is open for questions at each meeting, and we welcome new members at all levels of ability. Bring your machine, or at least your diskettes. For meeting night call Chuck Hansen at (408) 257-5244, or write P.O. Box 390088, Mountain View, CA 94039-0088.

HAYPROS. Kaypro User's Group—informal format, dealer supported. Meets at Computer Insights, 40957 Grimmer Blvd., Fremont, CA 94538, 1st Tuesday each month. Contact Ted de Castro, 18841 Vineyard Rd., Castro Valley, CA, (415) 581-8882.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont. 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

MACINTOSH

EBMUG (East Bay Macintosh User's Group) Friendly, informal. Public domain software and computer book library. Information exchange. Speakers. Product discounts. Free admission. Meets at West Berkeley Public Library, 1125 University Ave., Berkeley, CA, third Tuesday of each month at 7:30 pm. Contact Shep Tamler at P.O. Box 7816, Berkeley, CA 94707-0816.

Bay Area MacForum New and experienced Macintosh users. 2 monthly meetings, one in conjunction with San Francisco Apple Core, and one in Concord. For meeting and current

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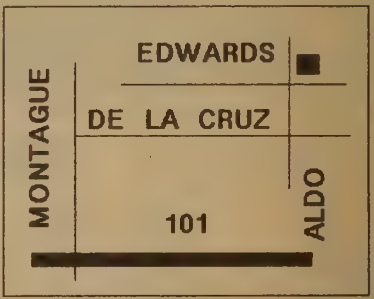

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Berkeley Macintosh User Group (BMUG). 1442A Walnut St., #62, Berkeley, CA 94709. General meetings: every Thursday 6 pm, Physical Sciences Lecture Hall on UCB campus. SIG meetings on Mondays, Tuesdays and Wednesdays. Call for more info and this week's topic. (415) 849-9114. BBS (415) 849-BMUG.

MacNexus. Sacramento's Macintosh User Group. 150 members, but still informal. Extensive public domain collection. Contact Gail McGovern, P.O. Box 163058, Sacramento, CA 95816, (916) 446-2411. Meetings 3rd Thursdays, 6:30 pm, Almond Plaza, 17th & C, Sacramento.

MacProgram Unlimited. Meets monthly. Informal with hands-on testing of different programs. Public domain and standard programs in rental library. Meets Albany YWCA, Kains and Solano, Saturday 9:30 am. Contact William Gong, P.O. Box 7704, Berkeley, CA 94707. (415) 527-1756.

Stanford Macintosh Users Group (SMUG) meets on the first Monday of the month at 7 pm in Kresge Auditorium, Stanford Campus. Meetings include speakers, discussions, answers and sale of library disks and other SMUG items. The Excel, Novice, Developer's, Japanese Word Processing Groups each meet twice monthly. SMUG publishes a newsletter and runs a BBS. Call the SMUG hotline at (415) 723-SMUK for a listing of current events. Stanford Macintosh Users Group, P.O. Box 2354, Stanford, CA 94305-0135.

Club Mac of Monterey. Macintosh User Group of Monterey Bay Area. Membership with monthly newsletter $25. Meetings 7 pm, last Wednesday of the month, Santa Catalina School, Monterey. Contact Richard Ware, P.O. Box 222988, Carmel, CA 93922.

Macs Of Marin. Macintosh users of Marin County. Both beginning and experienced users are welcome. Meetings: Room 104, Austin Science Building, College of Marin, 2nd Thursday of each month, 7:00 pm. Contact Steve Salzman, (415) 459-5707.

maCruzers, a Macintosh user's group, meets every second Wednesday of the month at Louden Nelson Recreation Center in Santa Cruz, 7 pm. For information call (408) 459-1644, or leave mail on The WELL (415-332-6106) for Paul Foraker [sforaker]. Wood Ring BBS (408) 423-7205, 18 hrs/day, several megs of shareware/pd utilities and games; making the effort to have the latest version of important DAs and utilities.

Association of Apple 32 Users. Meetings at GTE in Mountain View, 2nd Saturday of the month. Contact Ken Silverman, P.O. Box 634, Santa Clara, CA 95052, (408) 263-0398.

BAMMSBUA: (San Francisco) Bay Area Mac M.S. Basic Users Anonymous. A high-level users group devoted to the Microsoft dialect of BASIC for the Macintosh. Meets the second Tuesday of each month. For more information contact Ted Jones (415) 826-9239.

Mac Health User Group. For DentalMac, Medimac and Chiromac users, and interested others. To discuss ways to better use these billing and accounts receivable programs and the Macintosh in health-care practice. Meets at various times and locations. For more info, contact Robin Guess, 896 24th Avenue, San Francisco, CA 94121, (415) 387-3042.

Hellmans Open House. Meets every Tuesday 7 pm at 814 "E" St. San Rafael. Macintosh Network Games, Mazeware and Net-Trek, Bring your Mac and Appletalk cables if you have them. For more info call (415) 453-7924.

Christian Macintosh Users Group, Silicon Valley Chapter. Meets first Thursday of each month in Santa Clara. Newsletter and support hotline available All user levels welcome. Call Rick Thrasher at (408) 437-1913.

MICROMATE

East Bay Micro-Mate Users' Group. CP/M (3.0) public domain software available. Meetings at 757 Longridge Rd., Oakland, 1st Thursday of each month. Contact Ed Miler, P.O.B. 402, Moraga, CA, 94556, or call (415) 376-1611 for info.

MICROPRO

Wordstar Users. Forming user group for Wordstar users. Please write to P.O. Box 1331, Menlo Park, CA 94025 or call (415) 325-4277.

MIDI

MIDI Applications Group. Meets first Saturdays of the month. Contact John Komlenic, 1411 10th Ave., Oakland, CA 94606, (415) 465-6216.

MORROW

BAMDUA (Bay Area Micro Decision Users Association). Meets on last Tuesday of the month, 7:30 pm. Call (415) 644-2805 for location. Monthly newsletter.

SMUG (Stanford Morrow Users Group). Meets 2nd Wednesday of each month at 7 pm on Stanford Campus, Shultz Auditorium, Health Research and Policy building, Campus and Lomita Drive. Other CP/M users welcome. For further information call Ross E. Voyles, (408) 243-1455.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont. 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

PETMUG — Petaluma Morrow Users Group. Meets Westamerica Bank, Washington Square, Petaluma, 7:30 pm, 4th Thursday of the month. Contact Frank Nance, president, 293 Circulo Puebla, Rohnert Park, CA, (707) 585-2980.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

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NEC

Bay Area NEC/100 Users. For NEC 8201A and TRS-80 Model 100. 1st and 3rd Thursdays, 7:30 pm. Contact Rachel Holmen, c/o Truly Portable, Box 2916, Oakland, CA 94609, (415) 658-1889. Call for location.

NORTHSTAR

INSUA Largest North Star users group in the world. Members' newsletter and software library. Membership dues $20. Contact George Riddle, P.O. Box 2910, Fairfield, CA 94533.

NOVELL

Novell User Group of Silicon Valley. A Novell user group forming. All those interested contact Robert J. Harrigan Jr. at 38 Corning Ave., Milpitas, CA 35035. (408) 263-0987.

OSBORNE

East Bay FOG (First Osborne Group) Osborne, Kaypro and Morrow. Meets second Wednesday of the month at B&B Electric, 2832 Ford Street, Oak-

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land. 6 pm workshops, 7:30 pm program. For info contact 5497 Taft Ave., Oakland, CA 94518; phone (415) 272-9099.

SMOG3 Osborne User Group (Peninsula) Meets first and second Monday of every month at Crane Place, 1331 Crane, Menlo Park. Call Phil Moore at (415) 325-2442.

MTDOG (Mt. Diablo Chapter-First Osborne Group) Meetings 7 pm, 3rd Wednesday each month in Diablo Room (top floor), SF Federal Savings and Loan, 1660 Olympic Blvd. (cross-street: California), Walnut Creek. Software library, software / hardware / service demonstrations, sharing problems and solutions. For meeting info contact Larry Sydes, (415) 933-2665.

North Bay First Osborne Group. Meets first Thursday of the month at 7:30 pm, Valley Oaks Apts. Rec. Hall, 2600 Northcoast St., Santa Rosa, CA (off West Steele Lane). Call (707) 546-0145 for more information.

Microcomputer Users Of Santa Cruz (MUSC). A FOG affiliate, membership open to all persons interested in MS-DOS or CP/M computers. Meetings the second Tuesday of each month. Wheelchair access. Guest speakers, demonstrations, MS-DOS and CP/M software libraries. Info: Barney Bricmont. 1920 Maciel Avenue, Santa Cruz, CA 94062. (408) 476-0504.

San Francisco Computer Society, a CP/M and MS-DOS user group, meets on the first Monday of each month, 7:00 pm, at Homestead Savings, 5757 Geary Blvd., San Francisco. Membership is free, meetings are free and open to members and non-members. Member of FOG. For more information call Ralph Gallagher at (415) 929-0252.

Silicon Valley FOG. Supporting all types of CP/M micros. Two meetings monthly, one at the Campbell Public Library, 70 North Central Ave., Campbell, and the other at the Saratoga Community Library, 13650 Saratoga Ave., on the southeast corner of Saratoga and Fruitvale Avenues, Saratoga. Call (408) 371-8699 for further information.

PAPERBACK SOFTWARE

V-P Planner Special Interest Group. Meets 2830 Ninth St., Berkeley, CA, every third Thursday, 7:30 pm. Contact Lloyd W. Bracewell, 6200 Harwood Ave., Oakland, CA 94618, (415) 547-8205.

PEACHTREE

Peachtree User Group. Peachtree users group forming. All those interested write for info. P.O. Box 20607, Oakland, CA 94620. Or call (415) 465-3570.

PICK

Northern California Pick Users. NCPU mails a monthly newsletter, meets on the third Tuesday of the month for a dinner meeting with Pick related program, holds Pick educational courses, and has many other member benefits. P.O. Box 884474, San Francisco, CA 94188-4474, (415) 284-4063.

PIED PIPER

Pied Piper Users Group Owners of Pied Piper CP/M based computer are invited to call or attend the PPUG. Meets last Tuesday of the month at 7:30 pm. Please call (415) 638-1146. Meeting address: 10950 Elvessa St., Oakland 94605.

PROLOG

Prolog. A SIG-Prolog is being formed. Interested? Call Jorge (415) 969-5045 or Dave (415) 368-8450 (evenings).

TPRO Users. A group formed for users of Turbo Prolog. Contact Kim Floyd, 3109 Scotts Valley Dr., Suite 138, Scotts Valley, CA 95066. (408) 867-3438 x27. BBS: (408) 438-6506.

R2E

North Bay R2E Forming user group for R2E System microcomputer users. Please call (415) 235-1598 for information.

RADIO SHACK TRS

TRS-80 Computer Society of Diablo Valley The purpose of this group is the sharing of information, problem solving, support group, purchasing discounts, support for professional, business and educational users of Radio Shack computers. Out-of-area members welcome. Meetings second Tuesdays of the month, Willow Creek Center, 1026 Mohr Lane, Concord, 7:30-9:30 pm. Doors open at 7. Contact Roy or Sue Copeland, P.O. Box 23438, Pleasant Hill, CA 94523, (415) 372-7003.

TRS Nybblers. All Tandy computers including MS-DOS (IBM Compatibles). SIG's include laptops, CoCo's, Mod 1,3,4, Mod 2, 12, 16, 6000 and MS-DOS, Access to a variety of Public Domain software. Education modules, "problem solving" peripheral committee. Meets at Chabot College (Rooms 600 & 1564) 2nd Friday, 8 pm. Write TRS-Nybblers, Chabot College, 25555 Hesperian Blvd., Hayward, CA 94545. Attn Mel Edwards. Call B.B. Jarvis (415) 846-3575.

Bay Area Chapter of the California Computer Federation, a user group for Color Computer users formed by The Redwood Color Board. Write the R.C.B., P.O. Box 7007, Redwood City, CA 94063 for details.

South Bay TRS 80 Users Group (SBUG). Meets on the second Tuesday of the month, 7:15 pm, Saratoga Library. Contact Chris Oman, P.O. Box 60116, Sunnyvale, CA 94088. (408) 985-9460. BBS: (408) 249-8259.

San Mateo TRS-80 Users Group. Meets 4th Thursday of the month at Cal Fed S&L, 2600 Ocean Ave., SF., 7:30 pm. BBS (415) 574-7684, 300/1200, 8-N-1 settings. Contact Julian Kaufman, (415) 992-1783.

Bay Area NEC/100 Users. For NEC 8201A and TRS-80 Model 100. Meets 1st and 3rd Thursdays, 7:30 pm. Contact Rachel Holmen, c/o Truly Portable, Box 2916, Oakland, CA 94609, (415) 658-1889. Call for location.

Byte Bandits of America. Meets 2nd Saturdays 1 pm, 4th Wednesday 7 pm, 780 Manx Ave., Campbell, CA. Call Robert W. Brown, (408) 379-2774 for information. BBS: 300/1200. 24 hrs., free, (408) 374-3974.

Club 100. A Model 100 users Group. Dedicated to Model 100, 103, 200, NEC 8201A and Olivetti M10 users. Contact Richard Hanson, club secretary, P.O. Box 23438, Pleasant Hill, CA 94523, or call our club BBS at (415) 939-1246. We are a very active, on-line club with many helpful members, and a large Model 100 public domain library available to members.

United Computer Federation: San Francisco Chapter. Meets the fourth Tuesday of each month at the Foster City Fashion Island Mall community room. Meeting starts at 7:30 pm. Meetings are open to the public and all are welcome. The UCF is a network of Tandy color Computer user groups. For more information phone Brad Ryan, Chapter Vice President, at (415) 469-3172.

REALWORLD

Bay Area REALWORLD Users Group meets the third Tuesday of each month. For more information contact Mitch Paioff, 5097 Tisdale Way, San Jose, CA 95130, (408) 866-4310.

ROYAL

Royal Alphatronic, San Francisco. New group forming. Call Tom Rutkowski at (415) 863-4794 for information or write P.O. Box 421161, San Francisco, CA 94142.

S-100

S-100 Bus Users Group. Meets fourth Tuesdays, 7:30 pm, Community Room, El Paseo de Saratoga, San Jose. Contact Dick Delp, Box 10404, San Jose, CA 95157, (408) 245-2137. CP/M-80, S-100 emphasis. CP/M and MS-DOS libraries.

SANYO

Sanyo MBC 1100-1150 user group now forming in Oakland. Call or write (415) 534-1981, 5885 Bancroft Ave., Oakland 94605 fdr meeting time and location.

Sanyo National Users Group. SNUG is a central resource for Sanyo information and public domain. Inquiries welcome! Contact John Egan, 101 Irving Ct., Pleasant Hill, (415) 827-3023.

Sanyo PC Compatible Club. SPCCC supports Sanyo 16 bit machines and similar PC clones. We publish the Sanyo PC Hackers Newsletter (International), subscription rate $20/yr., and maintain a public domain software library. Meeting at the Mercury Room of Mercury Savings & Loan, 99 El Camino Real, Menlo Park, CA, 7-9 pm the first Wednesday of the month. Contact Victor R. Frank, 12450 Skyline Blvd., Woodside, CA 94602, (415) 851-7031.

SOUTHERN PACIFIC

ICOLATUG. User group for owners of Southern Pacific Ltd's Mountainside ICO and LAT single board computers. Exchange tips and programs. Contact Andrew P. Porter, 774 Joyce St., Livermore, CA 94550.

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South Bay T.I. User Group. One general meeting per month. We have training session, library and own bulletin board (408) 578-6264. Meets first Thursday of each month at 7:00 pm, Cupertino Library, 10400 Torre Ave., Cupertino, (between DeAnza Blvd. and Rodriques Ave.) starting at 7 pm in the basement conference room. Call v.p. Keith Felix, (408) 258-6678.

Nor-Cal TI 99/4A Users Group. Learn more about your Texas Instruments 99/4A computer. Free software, sources of hardware and software. Contact Dave Steady, 324 Howard St., Petaluma 94952, (707) 762-6561. Meetings at Retail Clerks' Union Hall, 382 Tesconi Ct., Santa Rosa, CA, first Wednesday of the month at 7 pm.

Santa Clara Valley TI Pro User Group. Meetings 7 pm, 4th Thursdays, location varies. Contact Tom Schoen, PO Box 871, Newark, CA 94560, (415) 793-6670.

THEOS/OASIS

Theos/Oasis Users Bay Area Group. Greater SF Bay Area users of THEOS and OASIS multi-user operating systems meet quarterly to focus on "hot" issues and share info. Contact Joe Trimble, 236 Frisbie St., Oakland, CA 94611, (415) 839-3281.

TIMEX/SINCLAIR

East Bay Timex/Sinclair User Group (EBZUG) Timex/Sinclair user group. S/W library and newsletter. Usually meets 4th Thursday of the month at 7:30 pm, CALL FIRST FOR EXACT TIME AND PLACE. Contact Russ English, 415/465-3116 or write to Woody McPheeters at 3128 King St., Berkeley, CA 94703.

Timex/Sinclair Users of Silicon Valley (GUTS/SV) c/o Bill Miller, 6675 Clifford Drive, Cupertino, CA 95014-4530. 253-3175. SW library and newsletter. Meets every Saturday morning at 9:00 am at Stanford University, Jordan Hall (in the quadrangle), Math Building (number 380) in room 380C (downstairs). For topic check the PDSE (Public Domain Software Exchange) BBS in Sunnyvale at (408) 735-7390, 300/1200, 8-N-1, 24-hours, 32 lines (no waiting!).

Silicon Valley Timex/Sinclair User Group (SVTSUG) Timex/Sinclair user group: 6675 Clifford Drive, Cupertino, CA 95014-4530. Bill Miller (408) 253-3175. SW library and newsletter. Meets at Cupertino Library, 10400 Torre Ave., Cupertino, CA, last Tuesday of the month.

UNIX

The Unix C-Club Seminars, public domain softwares, information exchange, Unix hardwares and softwares. Discount on purchases. Meets 2nd Saturday of each month at 10 am. Call Gilbert B. Dalit at (415) 348-6723 or (408) 238-5587 for more information, or write: 122 2nd Ave., Suite 214, San Mateo, CA 94401.

Silicon Valley Net. Meets every fourth Tuesday of the month, 7:30 pm, at 3000 Hanover, Palo Alto. SVNet presents speakers on topics of interest to UNIX users. Informal, technical setting where questions are welcome. Free of charge.

VECTOR

Bay Area Vector Group Meeting held regularly. Please call to be put on mailing list. You will be informed of next meeting! Contact Peter Tjeerdsma, 764 Cole St. #4, San Francisco, CA 94117. Phone (415) 681-0308.

VICTOR

Victor* Group is the San Francisco Bay Area Victor User's Group. We have three chapters East Bay, South Bay, and San Francisco. Members can attend meetings at any of the chapters or all of them. The more the merrier. Dues are $30 a year, which includes a subscription to VictorTalk, membership in a Victor-exclusive discount buying cooperative, and the right to buy from our public domain library at a discount. South Bay meetings are held the first Thursday of each month at Computer Insights, 40957 Grimmer Blvd., Fremont at 7:30 pm. Contact John Kimber (415) 797-6423. East Bay meetings are held the second Wednesday of the month at 7:30 pm; contact Boardman Moore (415) 283-3285 for location and further info. San Francisco meetings are held the third Sunday of the month at 5 pm at Homestead Savings, 130 West Portal, San Francisco. Contact Joe Zmuda, (415) 584-4048.

VTC-1050

VTC-1050 User's Group. Establishing a VTC-1050 User's group and newsletter. Interested parties please call or write Ken Phillips, 4349 Blackford Ave. #1, San Jose, CA 95129, (408) 973-1353.

WORD PERFECT

Word Perfect of Santa Cruz. Now a SIG of Santa Cruz Computer Society. Telephone network, meetings occasionally as needed. 2120-87 N. Pacific, Santa Cruz, CA 95960-2743. Contact Sylvia Caras, (408) 426-7636.

Word Perfect SF PC UG. Meets on the first Monday of each month at 6:30 before general meeting at Fort Mason, Bldg. A, Rm. 5. Contact D. Wayne Smith at (415) 221-9166.

South Bay Word Perfect User Group. Call Martin Van Derpool, (408)238-8434 for information.

ZENITH

Zenith User Group of San Francisco. Zenith users are forming a user group and bulletin board for Zenith computers. Hands on demonstrations will be provided on the full line of Zenith hardware. Meetings at 1325 Howard St., SF, CA. Contact Stan Kelley, 415-861-3068.

B.A.H.U.G. Bay Area Heath Users. Heath/Zenith computers, ZDOS, PC-DOS, CP/M and MS-DOS. Meetings at 2001 Middlefield Rd., Redwood City, CA, 7 pm second Tuesday of each month.

NBHZUG North Bay Heath/Zenith Users Group. Devoted to Heath/Zenith computers in specific and MS-DOS, CP/M computers in general. Beginners and advanced. Meeting place varies, time 2nd Saturday, noon. Contact Martin Schaaf, (415) 454-6761 for information.

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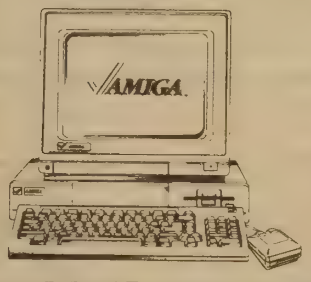

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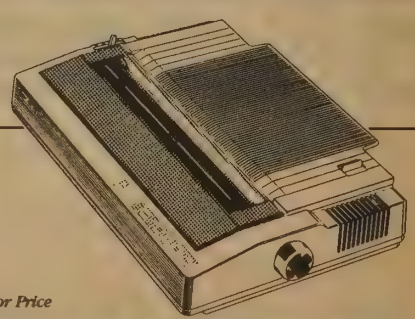

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DVORAK'S LAST COLUMN

Danielle Steele, Bill Gates And The Death Of Computerphobia

By John C. Dvorak

Romance novelist Danielle Steele may make seven or eight million dollars per year. Not bad dough for a writer. Get this: even if she made $10 million per year, she'd have to work and earn that amount every year for the next 100 years and save every penny to achieve the current net worth of 31-year-old software mogul Bill Gates of Microsoft Corporation.

Yet, when billionaire Gates shows up in Houston to address a crowd of 2,000 onlookers, the local papers show no interest in covering it. In fact, when Gates shows up in San Francisco or anyplace else, for that matter, nobody in the local press covers it. I've never seen Gates on TV, either. *And* he doesn't shun the press. Seems peculiar, doesn't it?

I like to use the example of Danielle Steele for comparison, because she's a successful novelist who few would classify as a great literary talent. So there should be no intellectual interest in her that would attract the attention of a newspaper. Note the word "should." Let's face it, if she gave a talk to 45 old biddies at the Junior League Hall in Buckley, Iowa, it would probably get media coverage and maybe an AP wire story. Exactly why is she newsworthy? Because she makes a lot of money for her hard work? That's the only reason I can figure. Meanwhile, the Houston *Tribune* tells Fred Thorlin, the promoter of the Gates talk for the Houston Area League of PC users, that they don't care about Gates.

The paper figures nobody is interested in this technology stuff. They feel this way despite the fact that Houston is a hotbed of computer users. Houston is one of the hottest high tech areas in the country, probably second or third only to Silicon Valley and the New England Route 128 enclave. In fact Texas is jammed with high tech firms. NASA, Texas Instruments, Motorola, IBM-Austin, and Compaq are just a few of the hundreds of hardware and software companies down there. You'd never know it if you read the vapid coverage of technology in the Houston and Dallas papers.

Now it's not that I want to see a kid promoted to death. It's not media neglect of Gates that's a problem. Today's media, whether newspapers, magazines or TV, ignore technology, specifically small computer technology, largely because they are peopled by old timey editors and reporters who are simply intimidated by it all and who are afraid they'll look like idiots when in the presence of a Gates. So they avoid him.

> **Standing out like a New Guinea tribesman at a Baptist prayer breakfast are the New York-based book publishers. No computers anywhere. Heaven forbid someone doesn't like to completely retype a document by hand over and over.**

When editors are grilled about this their excuse is always the same, "Nobody on the staff can write about this stuff. Anyway, people aren't interested." Meaning *they* aren't interested. Surely there are more computerists who are interested in this stuff than, say, hot rods, real estate investments, stamp collections or even gardening. All these subjects are covered to death by the press.

The naivete of the newspapers is reflected in the writing. When papers cover small computers they assume that the reader is a complete idiot and has to have every supposed new term explained over and over. (A new term to this crowd is a technology or engineering term that has been around for at least 20 years).

Recently, I recall that even the *Wall Street Journal* explained within the body of an article what a microprocessor is, as if the reader had no idea. Now these things have been around since the early 1970s and have been explained to death. *Time* Magazine made the computer the Man of the Year a couple of years ago and everybody figured that that event put the matter to rest. Nope.

The fact that a 12-year-old can effortlessly understand and use a microcomputer should tell you something about their complexity, shouldn't it?

Meanwhile, the real trend is towards using computers all the time by everyone. Freelance writers and book authors are leaders in this movement. Too bad their publishers can't keep pace. Only a few moneymaking professional writers still use a typewriter. Those who don't will probably never change if they don't change soon. The machines are now getting complicated and there's no reason to hold back the advances because a few laggards haven't the gumption to get on board.

The old technologies will be incorporated into "smart" typewriters and the computerphobes will have a computer anyway and not even know it. Their disadvantage is that their computer — the electronic "smart" typewriter — will be more in control of things than they will. Just the opposite of the ideal relationship a writer has with a computer.

Standing out in this crowd like a New Guinea tribesman at a Baptist prayer breakfast are the New York-based book publishers. No computers anywhere. Heaven forbid someone doesn't like to completely retype a document by hand over and over. Editing and retyping are what computers do best for a writer. A writer can grind out a complete book at eight pages per minute off of a laser printer. And that's while reading the newspaper or while working on another book. To the real power hungry user, though, even this is scarcely taking advantage of the possibilities.

The easiest way to handle the printed word is by sending documents from computer to computer over the phone lines. Why should hard copy even be part of the publishing scene when the document has to be rekeyed anyway? If a writer cannot be edited on a display tube, then the writer shouldn't be published. Hard copy should be kept to a minimum — the finished book or article should be the *only* hardcopy. But despite the fact that the typesetting equipment is computerized and digital editing is available, and used by most magazines and newspapers, there is little (if any) computer-to-computer transmission of documents in today's publishing world.

Let's just say that this is now a laughable position. I imagine a stone carver arguing with an ancient about the viability of ink and quill writing. "It'll fade. The quills are too hard to use. Give me a hammer and chisel any day. Now *that's* writing!"

And *this* is ramblin'. It could have been as easily done with a typewriter. It just would have taken far longer. ☐

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At a suggested retail price of just $599,* the new pcPopular from Blue Chip isn't just compatible with the IBM® PC XT™ standard. It's also compatible with the typical family budget.

You see, we designed the pcPop™ to appeal to growing families. So it'll run any of the thousands of packages for education, entertainment and home financial management written for the IBM PC. It'll even run the most popular business software. And at a speed that would put most office PCs to shame.

STANDARD FEATURES:

- 100% IBM PC XT compatible. Runs all IBM PC XT software.
- 8088-2 16-bit central processor. (Clock 4.77 or 8.0).
- 512K RAM (Random Access Memory) on the motherboard.
- Real time clock/calendar with battery backup.
- One 5.25-inch 360KB floppy disk drive included. Second floppy disk drive optional. Second drive controller included.
- One serial (RS232C) communications port.
- One Centronics parallel printer port.
- Six 62-pin, full-size, full-height expansion slots.
- IBM AT®-style keyboard. Low-profile, step-sculptured, 84 keys.
- Multivideo board included. Supports color graphics, CGA, Hercules® and IBM monographics and monochrome text. Ports for both 9-pin D-Sub TTL and RCA video connectors.
- High-resolution output. 640 x 200 pixels in color mode. 720 x 348 pixels in Hercules graphics or text mode and composite color and monochrome.
- Two-button mouse included.
- Game port included.
- DOS 3.2, GW BASIC with documentation included.
- Compact size. Takes up much less space than the IBM PC.
- One-year limited warranty.

What's more, the pcPopular comes with a money-back guarantee of 100% IBM PC XT compatibility, and a hassle-free warranty on both parts and labor that's good for a full year.

When you add it all up, the pcPopular is one of the most powerful and feature-rich compatibles available.

Which just goes to prove we haven't forgotten what made PCs popular in the first place.

BLUE CHIP

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